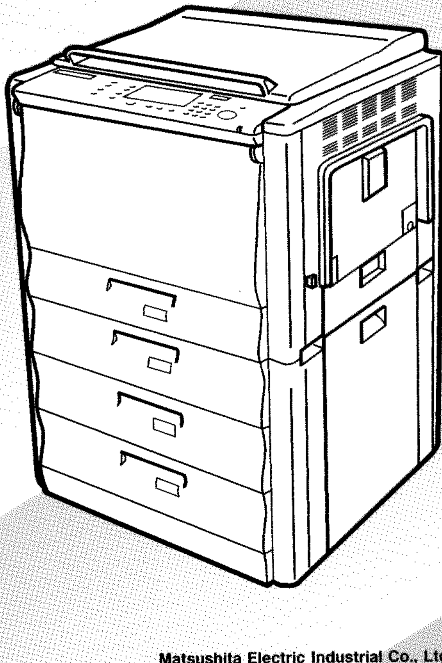
ORDER NO. OED9310264C8

Service Manual

Plain Paper Copier

FP-1680
FP-2080



Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288,
Osaka 530-91, Japan

FP-1680/FP-2080 Service Manual

Panasonic

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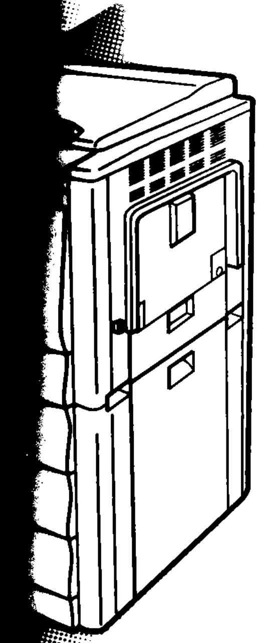

Electric Industrial Co., Ltd.
Box 288,
1, Japan

FP-1680/2080 Service Manual
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For U.K.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.
This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 13 amp fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ◈ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR OFFICE THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.
If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

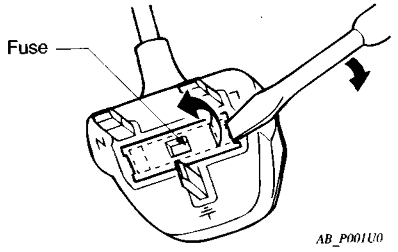
WARNING : THIS APPLIANCE MUST BE EARTHED.

IMPORTANT : The wires in this mains lead are coloured in accordance with the following code:

Green and Yellow	:Earth
Blue	:Neutral
Brown	:Live

As the colours of the wires in the main lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by letter E or by the safety Earth symbol "⏚" or coloured GREEN or GREEN-AND-YELLOW.
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

How to replace the fuse.
Open the fuse compartment with a screwdriver and replace the fuse.



For Sweden, and Denmark

SPECIALSÄKRING: ENDAST AV APPARATFABRINKANTEN LEVERERAD SÄKRING FåR ANVÄNDAS.

VARNING!
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

ADVARSEL!
Lithiumbatteri—Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Lever det brugte batteri tilbage til leverrandoren.

CAUTION!
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Section I
Introduction

1.1 Specifications

1. Type: Desktop
2. Copy process: Electrostatic photographic method
3. Development process: Two component magnetic brush
4. Maximum original size: A3 (297mm ×420mm)
5. Copy speed:
    - FP-1680
        - 8 copies per minute for A3 size
        - 10 copies per minute for B4•FLS size
        - 16 copies per minute for A4 size
        - 12 copies per minute for A4 R size
        - 16 copies per minute for A5 size
    - FP-2080
        - 12 copies per minute for A3 size
        - 14 copies per minute for B4•FLS size
        - 20 copies per minute for A4 size
        - 16 copies per minute for A4 R size
        - 20 copies per minute for A5 size
6. First copy time:
    - FP-1680
        - 9.5 seconds (A4 size) (without Auto mode)
        - 13 seconds (A4 size) (with Auto mode)
    - FP-2080
        - 8.5 seconds (A4 size) (without Auto mode)
        - 10 seconds (A4 size) (with Auto mode)
7. Copy ratio:
    - Enlargement (fixed): 1:2.00, 1:1.73, 1:1.41, 1:1.22, 1:1.15
    - Reduction (fixed): 1:0.87, 1:0.82, 1:0.71, 1:0.58, 1:0.50
    - Zoom: 2.00–0.50 (1% step)
8. Copy size:
    - A3 (297mm ×420mm)
    - B4 (257mm × 364mm)
    - Foolscap (8.5" × 13"), (8" × 13")
    - A4 (210mm × 297mm)
    - A4R (210mm ×297mm)
    - A5 (148mm × 210mm)
9. Paper capacity: 250 sheets per paper tray (front loading) + 1 sheet (FP-1680)/50 sheet (FP-2080) multi-sheet bypass
10. Paper feed: Push button automatic paper tray + sheet bypass
11. Paper exit tray capacity: 100 sheets
12. Paper weight: 60 g/m^2 to 90 g/m^2
13. Continuous copying:
    - 1-99 automatic reset to 1 (FP-1680)
    - 1–999 automatic reset to 1 (FP-2080)

14. Fusing system: Heat and Pressure
15. Photoreceptor: Organic Photoconductor (OPC)
16. Exposure control: 7 step digital + Photo/Auto button
17. Warm up time:
    FP-1680
    Approximately 70 seconds
    FP-2080
    Approximately 85 seconds
18. Optical system: Conventional internal scan
19. Misfeed indication: LED display
20. Toner supply: Automatic
21. Power source: 220–240V,50 Hz, 6.5A
22. Dimensions: 640(W) × 632(D) × 463(H)mm
23. Weight: Approximately 61 kg
24. Ambient conditions:
    Temperature: 10°C to 30°C
    Relative humidity: 30% to 80%
    Noise: Standby=38 dB
    Operation=50 dB (FP-1680), 55 dB (FP-2080)
    Heat emission: Standby=130 Wh
    Operation=660 Wh
    Ozone emission= Less than 0.1 ppm
25. Accessories:
    Exit tray
    Sheet bypass (FP-1680)
    Drum
    Document bag
    Developer
26. Optional accessories:
    FA-A760/A880 (Automatic Document Feeder)
    FA-S270 (Sorter)
    FA-S570 (Sorter) (FP-2080)
    FA-DS27 (System Console with Duplex unit + 500 sheet paper drawer) (FP-2080)
    FA-DS22 (System Console with 500 sheet paper drawer + Storage drawer) (FP-2080)
    FA-DS10 (250 paper drawer)
    FA-UE10 (Paper exit unit) (FP-2080)
    Key counter
    FA-UA20 (Color unit)

* Specifications are subject to change without notice.

1.2 Features

1. **The plain paper copier has been designed using many new concepts.**
   - The plain paper copier has been given a new image, designed to fit neatly in the office environment.

2. **Stabilization of copy image control (Digital system control)**
   - It is possible to widely and delicately control the copy quality with the digital system control.

3. **Use of a front-loading mechanism.**
   - The space normally occupied by the plain paper copier has been reduced by installing the paper tray at the front of chassis.

4. **High reliability with improved serviceability.**
   - Due to an extensive pursuit of reliable performance and design concept which provide easier service, the replacement of preventive maintenance parts in each unit has become simplified.
   - Before a failure occurs in the copier, the service mode can be used to indicate areas to be checked for servicing.
   - When a failure occurs in the copier, the self-diagnostics will indicate and display the area to be checked.
   - The developer section consists of a developer unit and drum unit.
   - Paper jams, if they occur can be easily removed from the copier. The sub-assembly design allows easy access to the copier interior and paper path.

5. **Easier operation.**
   - A dual-path paper feeding system, consisting of a paper tray (front-loading) and multi-sheet bypass.
   - The zoom function makes copies that range from 50% reduction to 200% enlargement of the original documents in 1% increments.
   - The Auto mode provides high-contrast copies of original documents with a colored background.
   - The Photo mode clearly reproduces the halftones of photographs.
   - The 2 Page-Copy modes allow editing to be performed with greater ease.

6. **Options are available for functional expansion.**
   - The optional System Console changes the image of the copier stand.
   - Copy speed and efficiency can be further increased by attaching an ADF (FA-A760/A880) and a sorter (FA-S270/S570 (FP-2080)).

1.3 Operator controls/Indicators

1. Master control panel

Note: FP-1680 (6 does not apply)

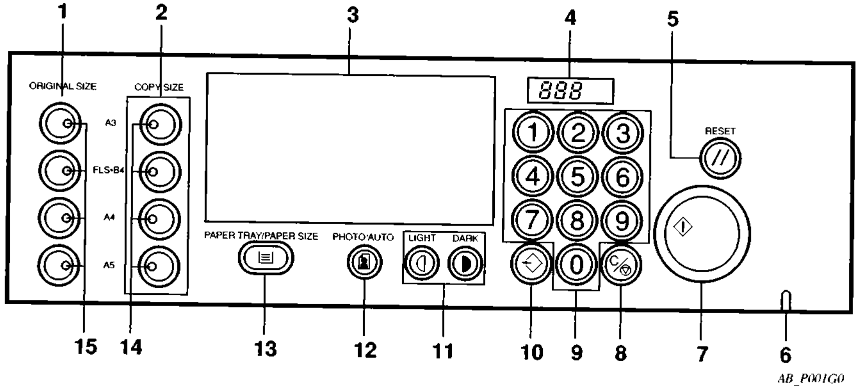


Figure 1-4-1

1. **"Original Size" key**
   When this key is pressed, the original size can be selected manually. When reduction or enlargement copying is selected, the copy ratio is selected automatically according to the original size and copy size selected.

2. **"Copy Size" key**
   When the "Copy Size" key is pressed, the copy size is selected manually. When reduction or enlargement copying is selected, the copy ratio is selected automatically according to copy size and original size selected.

3. **"Communication Monitor" display**
   Various indicators display the copiers current status.

4. **"Digit" display**
   This display can show the number of copies to be made, "Copy Ratio" and "Measurement of Each Trimming Function". Normally this display indicates the number of copies to be made.

5. **"Reset" key**
   When this key is pressed, each function in the control panel is reset to its original condition.

6. **"Power" indicator (FP-2080)**
   When the power switch is turned ON, the power indicator lights.

7. **"Print" key**
   - When the "Print" key is pressed while the Red "Wait" indicator is "OFF", the copy cycle starts. If the Red "Wait" indicator is "ON" the copy cycle will not start, even if the "Print" key is pressed.
   - This Red indicator lights up during warm up, when the key counter is not inserted, (Only with copiers equipped with the key counter) or in an unusual state, as a paper jam. A copy cycle cannot be started when this Red indicator is "ON".
   - This Red indicator turns "OFF" when the machine is "Ready" to copy. This Red indicator will be "ON" throughout the copy cycle.
   - While the copier is warming up, you may position your original on the copier, enter your copy job selections and press the Print key. The Pirnt key will flash untill the warm up cycle is completed and the copy job automatically start.

8. **"Clear/Stop" key**
   During the copy operation, when the "Clear/Stop" key is pressed once, the number of copies remaining will appear in the "Digit" display, the copy operation stops. The copy operation can be restarted by pressing the "Print" key again at this time. When the "Clear/Stop" key is pressed again, the number of copies in the "Digit" display will reset to "1". The copy operation is stopped and cleared.

9. **"Multi-Copy" key**
   Keys to select the number of copies to be made. Any number up to "99" (FP-1680)/"999" (FP-2080) can be selected. This function will reset to "1", 60 seconds after completion of the copy cycle.

10. **"Recall" key**
    When this key is pressed before running, copy ratio is confirmed. When this key is pressed during running, the number of selected copies is confirmed.

11. **"Exposure" keys**
    Steps of copy density can be selected with 2 keys. When the "Light" key is pressed, the copy density is varied in the direction of lightness, and the "Exposure" indicator moves left. When the "Dark" key is pressed, the copy density is varied in the direction of darkness, and this indicator moves right. The exposure will reset 60 seconds after copying.

12. **"Photo/Auto" Mode key**
When the copier is turned ON, it is automatically set to "Auto" mode. When this key is pressed, "Document" mode is selected. When this key is pressed again, "Photo" mode is selected. When this key is pressed again, "Auto" mode is selected.
Note: When F5-50-0 is selected, this key is pressed, and "Photo" mode is selected. When this key is pressed again, "Photo" mode is cancelled. When this key is pressed again, "Photo" mode is selected.

13. **"Paper Tray/Paper Size" key**
This key is used to select a particular paper size paper tray, or sheet bypass.

14. **"Copy Size" indicator**
When the "Copy Size" key is pressed, or "Copy Size" is detected automatically, the selected copy size indicator lights.

15. **"Original Size" indicator**
When the "Original Size" key is pressed, or "Original Size" is detected automatically, the selected original size indicator lights.

2. Communication monitor

Note: FP-1680 (11 does not apply)

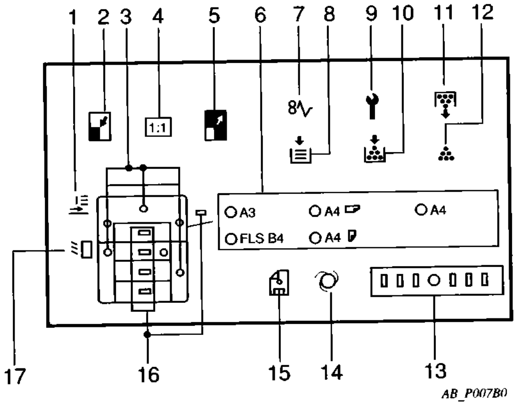


Figure 1-7-1

1. **"ADF Original Jam" indicator**
This indicator flashes when the original is not fed correctly, and the copier automatically stops.

2. **"Reduction Mode" indicator**
When reduction copying is selected, this indicator lights.

3. **"Paper Jam Position" indicator**
The position where this indicator flashes corresponds to the paper jam position.

4. **"1:1 Mode" indicator**
When 1:1 copying is selected, this indicator lights.

5. **"Enlargement Mode" indicator**
When enlargement copying is selected, this indicator lights.

6. **"Copy Paper Size" indicator**
When selecting 1:1 reduction or enlargement ratio, this indicator lights up to indicate the selected copy size. When the "Copy Size" or "Paper Tray/Paper Size" key is pressed, this indicator will also light.

7. **"Paper Jam" indicator**
   This indicator lights when the copy paper is not fed correctly, and the copier automatically stops. The indicator goes out when the paper tray is pulled out and put in or the front door is closed after correcting the cause of the paper jam.

8. **"Add Paper" indicator**
   This indicator flashes when there is no paper in tray or when no paper tray is inserted in the selected magazine. At the same time the Red "Wait" indicator lights, and the copy cycle cannot be started.

9. **"Service Call" indicator**
   When the number of copies is reached for preventive maintenance, this indicator will flash.

10. **"Add Toner" indicator**
    When the amount of toner in the toner hopper (toner bolttle) drops below the predetermined level, this indicator flashes.

11. **"Waste toner bottle full" indicator (FP-2080)**
    When the amount of toner in the waste toner bottle is above the predetermined level. This indicator lights.

12. **"Color" indicator**
    When the color unit is installed, this indicator lights.

13. **"Exposure" indicator**
    When the copy density is manually selected using the exposure key, the corresponding LED lights according to the density selected. 60 seconds after copying, the "Exposure" indication automatically comes back to the center of 7 LEDs from any position (for Document mode).

14. **"Auto" indicator**
    This indicator lights in "Auto" mode.

15. **"Photo" indicator**
    This indicator lights in "Photo" mode.

16. **"Cassette Position" indicator**
    This indicator lights "Paper Tray", "Sheet bypass" or "System Console" position.

17. **"Sorter Paper Jam" indicator**
    This indicator flashes when paper is not fed to the sorter correctly, and the copier automatically stops.

3. Special effects panel

Note: FP-1680 (15, 16, 17, 18, and 19 do not apply)

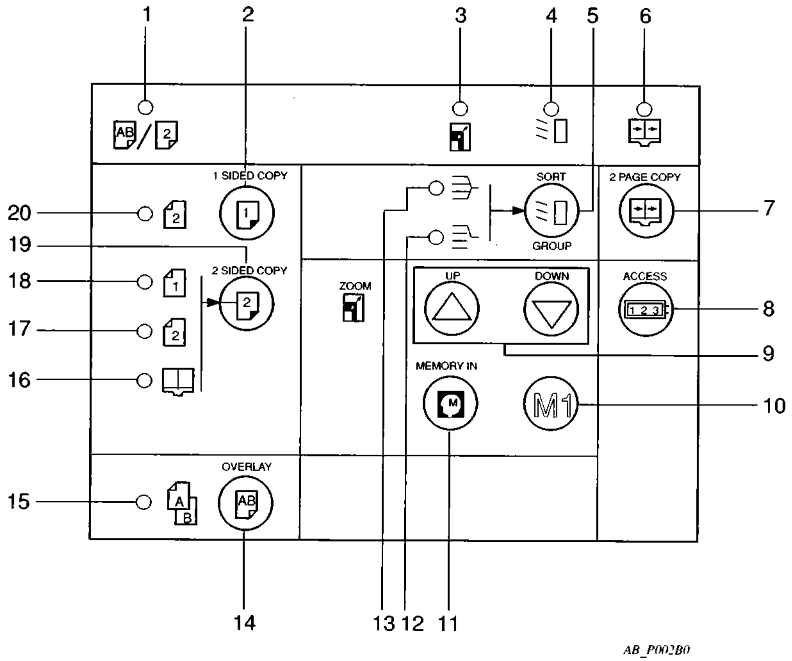


Figure 1-10-1

1. **"1 Sided-Copy/2 Sided Copy/Overlay" indicator**
   When the "1 Sided Copy", "2 Sided Copy" or "Overlay" key is pressed, this indicator lights up, when these keys are pressed again, or 60 seconds after copying, this indicator goes out.

2. **"1 Sided Copy" key**
   When iADF (Inverting Automatic Document Feeder) is installed and this key is pressed, the original is inverted by the ADF.

3. **"Zoom" indicator**
   When the Zoom "Up" or "Down" key is pressed, this indicator lights. 60 seconds after copying, this indicator goes out.

4. **"Sorter mode select" indicator**
   When the "Sorter mode select" key is pressed, this indicator lights.

5. **"Sorter mode select" key**
   When this key is pressed, the "Sort", "Group" or "Staple" mode can be selected optionally.

6. **"2 Page Copy" indicator**
   When the "2 Page Copy" key is pressed, this indicator lights. When this key is pressed again, or 60 seconds after copying is completed the indicator goes out..

7. **"2 Page Copy" key**
   When this key is pressed, a A3 original can be copied on 2 separate A4 pages (right and left). When this key is pressed again or 60 seconds after copying is completed "2 Page Copy" mode is cancelled.

8. **"Access" key**
   When this key is pressed, a total copy count is displayed on the "Digit" display. When a departmental counter is input in F7 mode, a total number of copies for the respective department is displayed.

9. **"Zoom" key**
   This key is pressed when making zoom copies, (Reduction/Enlargement). When the "Down" key is pressed once, the copy ratio is reduced by one percent. The copy ratio can be reduced in 1% increments by continuosly pressing the "Down" key. When the "Up" key is pressed once, copy ratio is increased by one percent. The copy ratio can be increased in 1% increments by continuosly pressing the "Up" key. Copy ratio is displayed in the "Digit" display, and returns to 1:1 60 seconds after copying. The zoom mode (up or down keys), can also be used to change the width measurement of each trimming mode selected.

10. **"M1" key**
    When this key is pressed, pre-selected copier features and copy quantity is selected.

11. **"Memory In" key**
    With all the required copy features and the copy quantity selected, press this key.

12. **"Group Mode" indicator**
    When the "Group Mode" is selected, the indicator lights.

13. **"Sort Mode" indicator**
    When the "Sort Mode" is selected, the indicator lights.

14. "Overlay" key (FP-2080)
By pressing this key, 2 pages of an original can be combined on one sheet of copy paper.

15. "Overlay" indicator (FP-2080)
When the "Overlay" key is pressed, this indicator lights. When this key is pressed again or 60 seconds after copying, this indicator goes out.

16. "Book Original, 2 Sided Copy" indicator (FP-2080)
When the "2 Sided Copy" key is pressed and book original is selected, this indicator lights. 60 seconds after copying, this indicator goes out (During use with optional ADF).

17. "2 Sided Original, 2 Sided Copy" indicator (FP-2080)
When the "2 Sided Copy" key is pressed and 2 Sided Original is selected, this indicator lights. 60 seconds after copying, this indicator goes out (During use with optional ADF).

18. "1 Sided Original, 2 Sided Copy" indicator (FP-2080)
When the "2 Sided Copy" key is pressed and 1 Sided Original is selected, this indicator lights. 60 seconds after copying, this indicator goes out (During use with optional ADF).

19. "2 Sided Copy" key (FP-2080)
By pressing this key, the following operations are selected.
1) 2 Sided Copy for a 1 Sided Original
2) 2 Sided Copy for 2 Sided Original
3) 2 Sided Copy for Book Original

20. "2 Sided Original, 1 Sided Copy" indicator
When the "1 Sided Copy" key is pressed, this indicator lights. When this key is pressed again or 60 seconds after copying is completed, this indicator goes out. (During use with optional ADF)

1.4 Component location

1. Outer view

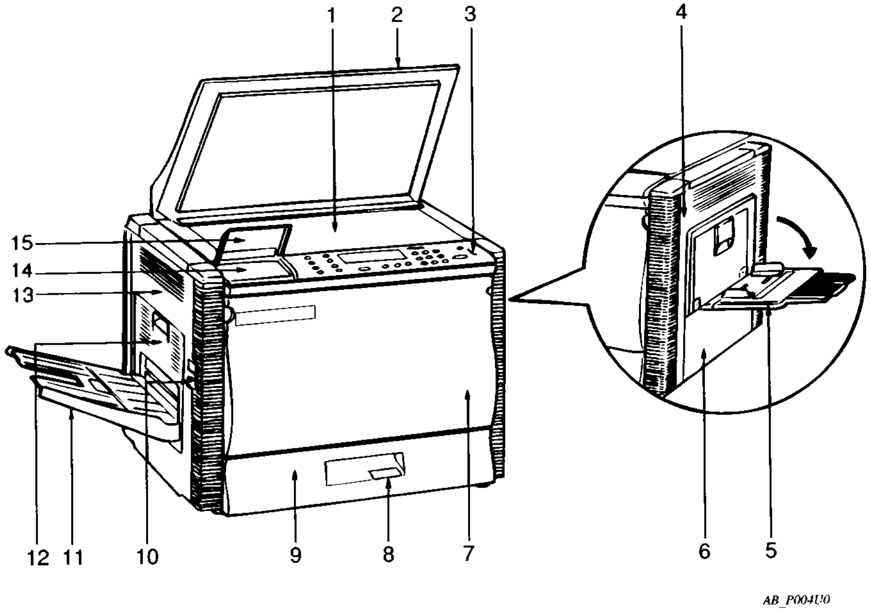


Figure 1-13-1

1. Platen glass
2. Platen cover
3. Control panel
4. Right cover
5. Multi-sheet bypass tray (*1)
6. Paper feed door
7. Front cover
8. Paper size check window
9. Paper feed cover
10. Power switch
11. Paper exit tray
12. Paper exit door
13. Left cover
14. Special effects panel
15. Special effects panel cover

(*1) FP-1680: One sheet bypass type.

2. Inner view

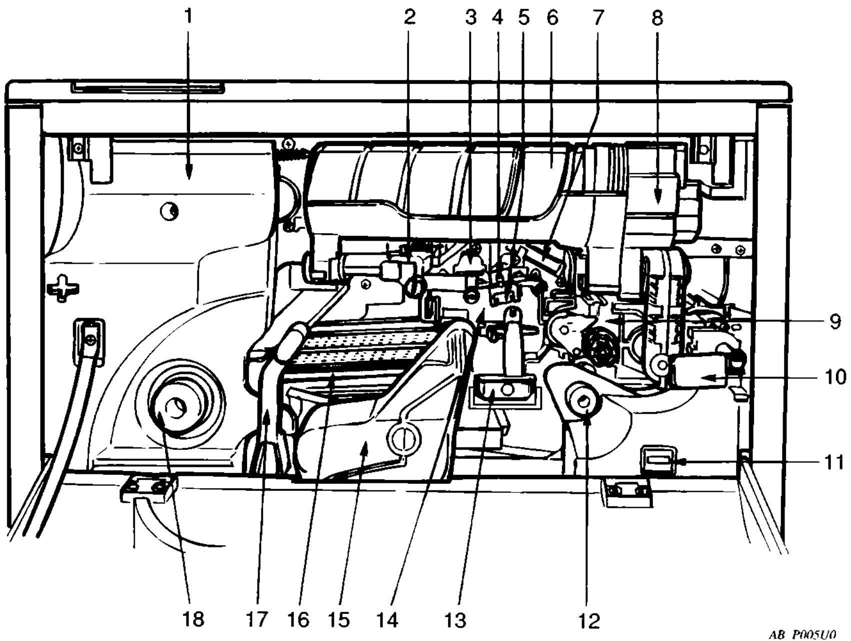


Figure 1-14-1

1. AC cover
2. Hopper unit release lever
3. Discharge lamp
4. Charge corona cleaner
5. Charge corona
6. Toner bottle
7. Slit glass
8. Hopper unit
9. Developer unit
10. Developer unit release lever
11. Total counter
12. Manual paper feed knob
13. Transfer/Separation corona
14. Drum unit
15. Waste toner bottle
16. Paper transport unit
17. Paper transport handle
18. Manual paper feed knob (Fuser unit)

3. Fan/Sensor/Motor/Breaker/Noise filter location

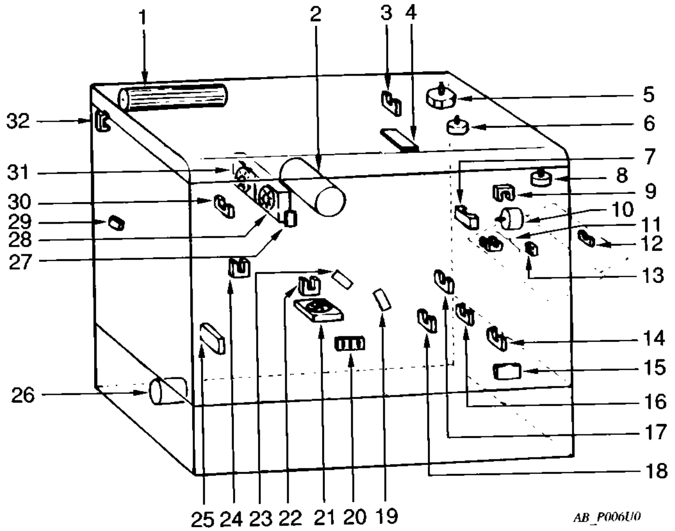


Figure 1-15-1

1. Optics cooling fan
2. Main motor
3. Mirror home position sensor
4. Auto original density sensor
5. Lamp unit scanner motor
6. Mirror stepping motor
7. Multi-sheet bypass paper detecting sensor
8. Lens stepping motor
9. Toner bottle position sensor
10. Toner bottle motor
11. Multi-sheet bypass paper size detecting sensor (2 pieces) (FP-2080)
12. Multi-sheet bypass paper size detecting sensor (FP-2080)
13. Toner level sensor
14. Paper pass sensor
15. Total counter
16. Paper tray paper detecting sensor
17. Paper feed door open/close sensor18. Timing roller sensor
19. Toner density sensor
20. Paper tray paper size detecting sensor
21. Suction fan
22. Waste toner bottle full sensor
23. Copy density sensor (CD1 and CD2)
24. Door open/close detecting sensor
25. Circuit breaker
26. Noise filter
27. Temperature/Humidity sensor (FP-2080)
28. Fuser cooling fan (1) motor
29. Paper exit sensor (A)
30. Lens home position sensor
31. Fuser cooling fan (2) motor
32. Optics home position sensor

4. Solenoid/Clutch/Switch location

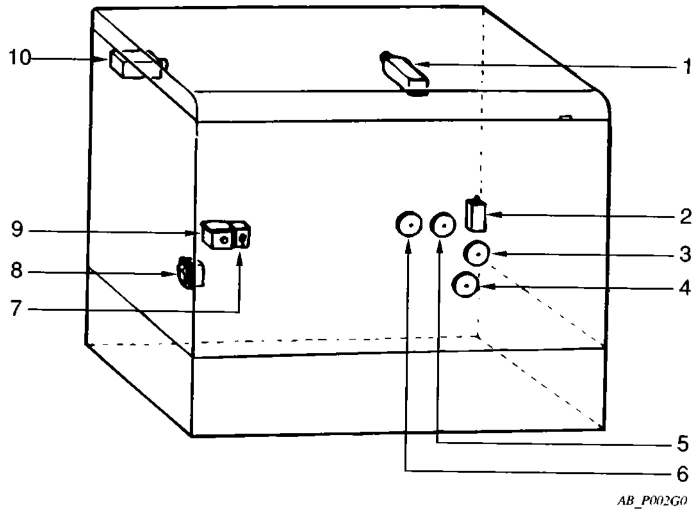


Figure 1-16-1

1. Auto original density solenoid
2. Sheet bypass solenoid
3. Paper transport roller clutch
4. Paper feed roller clutch
5. Sheet bypass clutch
6. Timing roller clutch
7. +24V switch
8. Power switch
9. Door switch
10. Cleaning web solenoid

5. PCB location

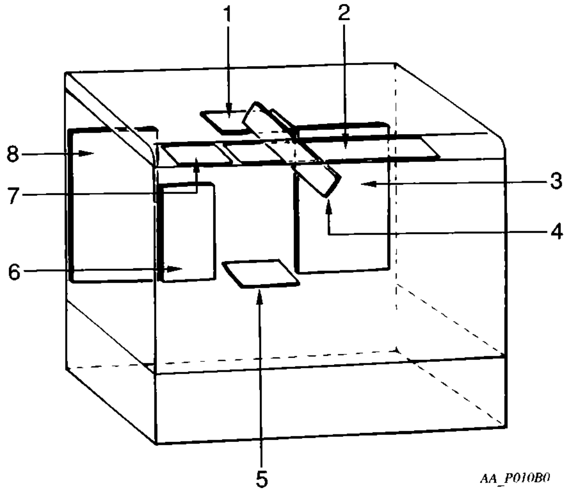


Figure 1-17-1

1. High voltage power supply (1) PCB
2. Control panel (1) PCB
3. CPU PCB
4. LED array PCB
5. High voltage power supply (2) PCB
6. AC driver PCB
7. Control panel (2) PCB
8. Low voltage power supply PCB

1.5 Copy Process

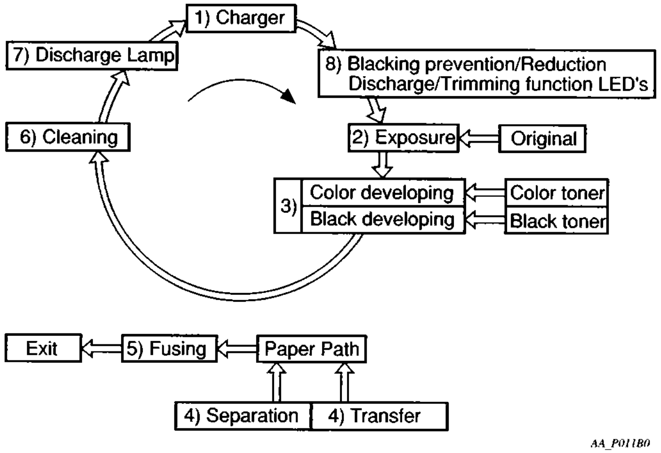

1) Charger
7) Discharge Lamp
8) Blacking prevention/Reduction Discharge/Trimming function LED's
6) Cleaning
2) Exposure
Original
3)
Color developing
Black developing
Color toner
Black toner
Exit
5) Fusing
Paper Path
4) Separation
4) Transfer
AA_P011B0

Figure 1-18-1

1. Primary Charge:

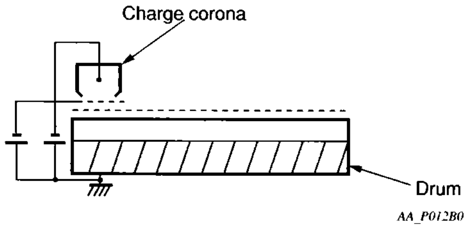

Charge corona
Drum
AA_P012B0

Figure 1-18-2

The charge corona (–DC) evenly applies a high negative charge to the surface of the OPC (organic photoconductor) drum. The drum surface is now charged to approximately –710 VDC (When "Photo" mode is selected, approx. –560 VDC). A negative charge also goes through the grid net on the charge corona from the grid voltage output of the high voltage power supply (1) PCB. Consequently, the drum surface potential is the same level as the grid voltage.

2. Image Exposure:

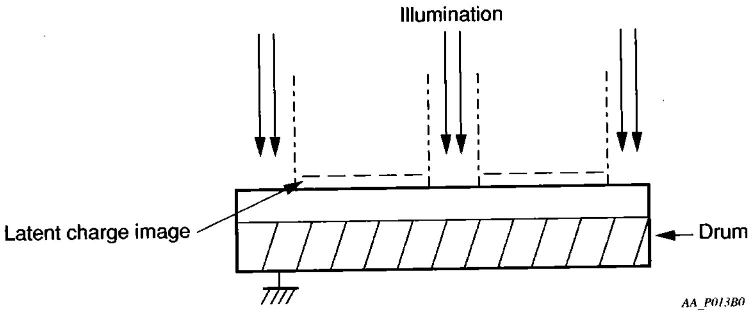

Illumination
Latent charge image
Drum
AA_P013B0

Figure 1-19-1

The original is illuminated by the exposure lamp, and the reflected image is projected on the surface of the OPC drum using mirrors and a lens. The negative charge on the drum surface is discharged by the reflected light, the stronger the light the greater the discharging effect.
Where there is print on the orignal, a (–) charge is retained on the drum in those areas. A charge pattern is formed on the drum, (latent image) corresponding to the original image.

3. Developing:

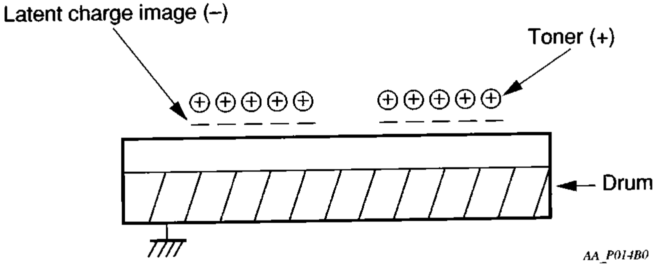

Latent charge image (–)
Toner (+)
Drum
AA_P014B0

Figure 1-19-2

- **Black developing**
  The developer is a mixture of a fine grain nonmagnetic toner, and fine grain magnetic carrier (consisting of resin and ferrite). The toner is positively (+) charged, and the carrier is negatively (–) charged. This combination forms a brush affect on the magnetic roller. The brush lightly touches the drum, the positively charged toner particles are attracted from the brush, to the negatively charged image areas on the drum. The latent image is now converted to a visible image on the drum. A (–) negative bias voltage is applied to the magnetic brush to prevent background in non-image areas where a slight residual charge remains.

- **Color developing**
  The Black developing section can be replaced with an optional color developing section. The operation is the same as for Black.

4. Transfer and Separation:

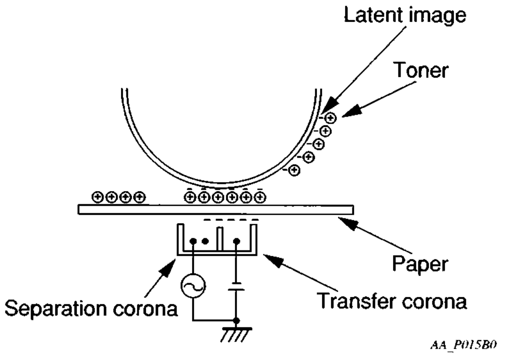

Latent image
Toner
Paper
Separation corona
Transfer corona
AA_P015B0

Figure 1-20-1

As the paper is fed between the drum and the corona, a high negative charge is placed on the back of the copy paper. The positive toner particles on the drum are then transferred to the copy paper. After transfer, an AC corona removes the static charge from the copy paper, thus separating the copy paper from the drum.

5. Fusing:

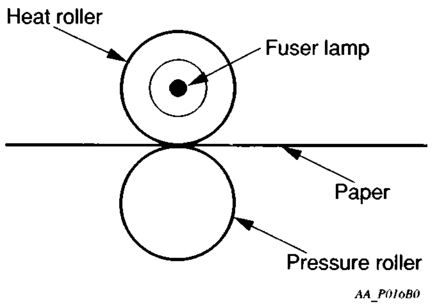

Heat roller
Fuser lamp
Paper
Pressure roller
AA_P016B0

Figure 1-20-2

After separation, the copy paper passes through the fuser rollers and is subjected to heat and pressure. The fusing temperature is approximately 180°C and the pressure approximately 0.4 kg/cm). This will bond, or fuse, the toner onto the copy paper.

6. Cleaning:

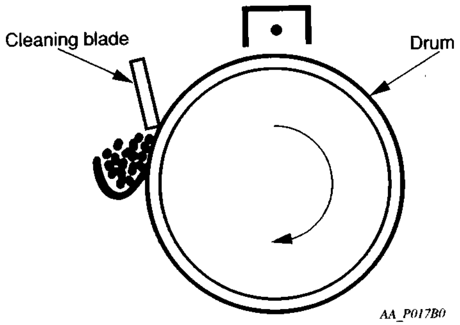

Cleaning blade
Drum
AA_P017B0

Figure 1-21-1

After transfer, some toner remains on the drum surface. A cleaning blade wipes the drum surface, and the remaining toner is sent into a waste toner bottle.

7. Discharge Lamp:

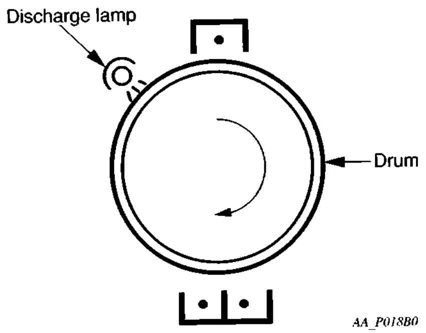

Discharge lamp
Drum
AA_P018B0

Figure 1-21-2

This lamp exposes the whole drum surface to make the level of the remaining potential uniform and discharge the remaining charge on the drum surface.

8. Blacking Prevention LED/Reduction Discharge LED/Trimming Function LED (LED array unit on the developer unit):

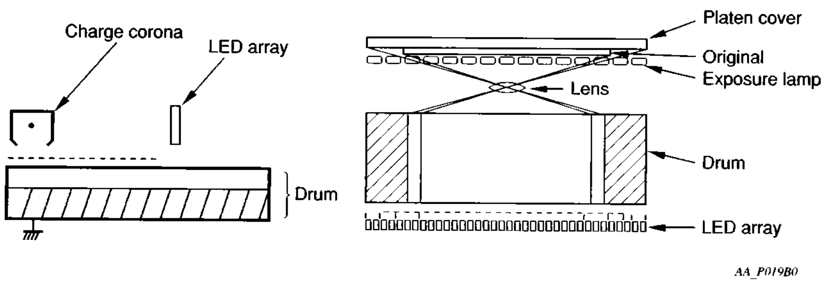


Figure 1-22-1

- After completion of exposure, the exposure lamp is dimly lit while the optical unit is returning to the home position. When this occurs, a solid black image may be formed on the drum surface, resulting in wasted toner or dirty copies. To prevent this, the LED array lights up to discharge the drum and eliminate toner build up on the drum in non-image areas.
- According to the selected reduction ratio, the appropriate sets of LEDs light, discharging the edges of the drum.
- According to the selected trimming function, the appropriate sets of LEDs light, discharging selected areas of the drum.

9. Digital system control

- It is possible to widely and delicately control the copy quality by monitoring temperature, humidity, toner density, etc with individual sensors and automatically controlling exposure lamp voltage, grid bias voltage, developer bias voltage, etc. (refer to page 3-22)

Note: Temperature/humidity sensor: FP-2080 only.

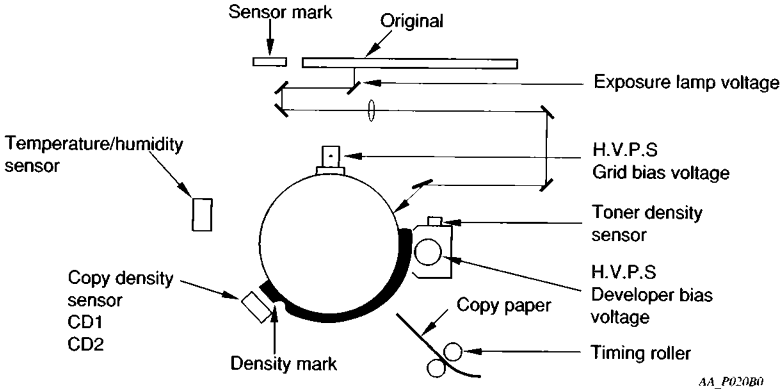


Figure 1-22-2

Section II
Operational Sequence

2.1 Operational sequence

1. Power ON

1) When the power switch is turned on, the power indicator and the control panel display light.
2) "1" appears in the "Digit" display, copy ratio is set at 1:1, and the "Print" key lights red (indicates "WAIT").
3) 24V is generated and the fuser lamp turns on, to start warming up the fuser unit.
4) The optical system initialization starts.
    a) The optical system moves forward at 1:1 speed, leaving home position, which turns the optics home position sensor off.
    b) The optical system continues forward for a predetermined number of pulses, then moves in the reverse direction at a predetermined speed.
    c) After the optics home position sensor is turned on, the optical system continues in reverse for a predetermined number of pulses.
    d) The optical system stops at home position and the initialization operation is completed.
5) After the optical system initialization is completed, the lens and mirror stepping motors are turned on to set the lens and mirror in the 1:1 position.
6) When the heat roller temperature reaches its set value, drum initialization starts.
    a) Fuser cooling fans (1) and (2) turn ON.
    b) At the same time, the main motor, drum, developer and fuser unit drive systems turn on.
    c) If the toner bottle position sensor is turned off, the toner bottle is rotated by the toner bottle motor to its start position, then the toner bottle motor stops.
    d) A short time later, the developer bias is turned on.
    e) After a peredetermined time, the discharge lamp is turned on.
    f) Next, the charge, transfer and separation coronas are turned on.
    g) After the exposure lamp turns on, the optical system moves to the exposure lamp voltage position for measuring constant light quantity.
    h) Then the exposure lamp voltage for measuring constant light quantity starts.
    i) After a predetermined time, the measuring of constant light quantity is completed, and the exposure lamp turns off.
    j) Shortly thereafter, the exposure lamp is turned on again.
    k) A predetermined time later, the copy density read starts.
    l) After a predetermined time, the copy density read is completed and the exposure lamp turns off.

m) After the exposure lamp turns off, the optical system returns to home position.
n) A predetermined time later, the charge corona is turned off.
o) After a predetermined time, fuser cooling fans (1) and (2) are turned off.
p) After a predetermined time, the main motor, drum, developer and fuser unit systems, developer bias, discharge lamp and transfer/separation coronas are turned off. Drum initialization is completed.

2. Copy operation

1) The copy operation starts when the "Print" key is pressed.
2) The developer unit system starts. [step (A) below]
3) Paper feed operation starts. [step (B) below]
4) When the "Print" key is pressed, Auto/Document modes function as follows:

(Auto mode)

a) The exposure voltage for Auto mode is set, and the exposure lamp turns on.
b) The pre-scan operation starts. [step (C) below]
c) The corresponding exposure lamp voltage and bias voltage for the original density detected by the pre-scan operation is set, and the exposure voltage for copying is set.

(Document mode)

a) The correspondence density bias voltage and the exposure lamp voltage are set, and the exposure voltage for copying is set.

Note: When the Photo mode is selected, the corresponding density is changed by exposure voltage.

5) Copy scan operation starts. [step (D) below]
6) Timing roller section operation starts. [step (E) below]
7) The total counts up 15 msec. after the paper exit sensor detects the tail edge of the copy.
8) The exposure lamp turns off.
9) After a predetermined time, all operations stop.
10) For continuous copy, the optical system returns to the exposure lamp on position and the operations from step 5) are repeated.

(A) Developer Unit System Copy Operation

When the "Print" key is pressed, the following occurs:

a) Fuser cooling fans (1) and (2) and the main motor are turned on. The drum, developer and fuser unit systems rotate. At the same time, the LED array is turned on.
b) After a predetermined time, the developer bias is turned on and supplied to the developer unit. The paper feed operation also starts.
c) A short time later, the discharge lamp turns on.
d) A predetermined time later, the suction fan turns on.
e) Within a predetermined time, the charge, transfer, and separation coronas turn on, and they supply corona voltage to the drum.

f) After one revolution of the drum, the developer unit system is ready for copying.
g) After the last sheet of paper is fed from the timing roller (copying is completed), the charge, transfer and separation coronas are turned off.
h) After a predetermined time, the main motor, developer bias, discharge lamp, suction fan and LED array are turned off. Simultaneously, the drum developer and fuser unit systems will stop.
i) Fuser cooling fan (2) is turned off.
j) For continuous copy, the operations from step f) are repeated.

(B) Paper Feed Operation

When the "Print" key is pressed, the following occurs:

(Multi-sheet bypass)

a) The sheet bypass solenoid is turned on. (FP-2080)
b) After a predetermined time, the sheet bypass clutch is turned on.
c) When paper arrives at the timing roller, the timing roller sensor is turned on.
d) After a predetermined time, the sheet bypass solenoid (FP-2080) and clutch are turned off.

(Paper tray)

a) The paper transport roller and paper feed roller clutches are turned on.
b) When paper arrives at the paper pass sensor, the sensor is turned on.
c) After a predetermined time, the paper feed roller clutch is turned off.
d) When paper arrives at the timing roller, the timing roller sensor turns on.
e) A predetermined time later, the paper transport roller clutch is turned off and the paper feed operation stops.

(C) Pre-Scan Operation

When the "Print" key is pressed the following occurs:

a) The full-speed unit moves forward at 50% ratio speed.
b) The full-speed unit speed is reduced, and travels for a predetermined number of pulses then stops.
c) After a predetermined time, the full-speed unit moves in reverse at a predetermined ratio speed.
d) The full-speed unit moves in reverse for a predetermined number of pulses and starts measuring the original density.
e) The original density measurement is completed after the predetermined number of pulses.

f) The standard density measurement is started after a movement for a predetermined number of pulses.
g) The standard density measurement is completed after the full-speed unit moves for a predetermined number of pulses.
h) After the home position sensor turns on, the full-speed unit speed is reduced. It moves for a predetermined number of pulses and stops.
i) The pre-scan operation is completed.

(D) Copy Scan Operation

When the "Print" key is pressed, the following occurs:

a) The full-speed unit moves forward at the corresponding ratio speed.
b) After the optics home position sensor is turned off, the full-speed unit moves for a predetermined number of pulses to reach its registration position.
c) After the full-speed unit moves for the original size, its speed is reduced and then stops.
d) After a predetermined time, the full-speed unit moves in reverse at full speed.
e) A predetermined time later, the speed of the full-speed unit is reduced to a predetermined speed.
f) After the optics home position sensor is turned on, the units speed is reduced and then stops.
g) The copy scan operation is completed.

(E) Timing Roller Section Operation

When the "Print" key is pressed, the following occurs:

(Multi-sheet bypass)

a) The timing roller clutch is turned on.
b) A predetermined time after the timing roller sensor is turned off, the timing roller clutch is turned off.
c) The timing roller section operation is completed.

(Paper tray)

a) The timing and paper transport roller clutches are turned on.
b) A predetermined time after the timing roller sensor is turned off, the timing and paper transport roller clutches are turned off.
c) The timing roller section operation is completed.

Section III
Sub-Assemblies

3.1 Mechanical

Note: FP-1680 (20 and 22 do not apply)

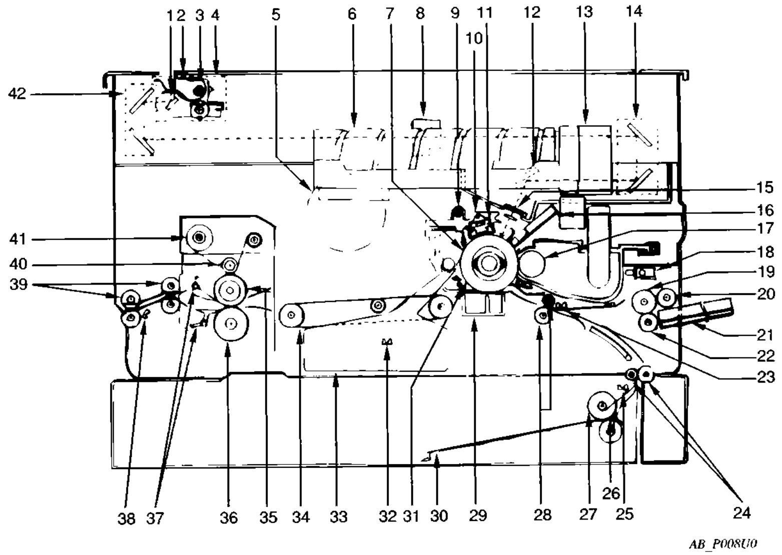


Figure 3-1-1

1. No.1 mirror
2. Aperture plate
3. Exposure lamp
4. Full-speed unit
5. Main motor
6. Toner bottle
7. Cleaning blade
8. Lens
9. Discharge lamp
10. Charge corona cleaner
11. Charge corona
12. No. 6 mirror
13. Hopper unit
14. No. 4/5 mirror
15. Slit glass
16. LED array
17. Magnetic roller
18. Mixing release lever
19. Sheet bypass paper feed roller
20. Paper transfer roller
21. Multi-sheet bypass tray
22. Sheet bypass double feed prevention roller
23. Timing roller sensor
24. Paper transport roller
25. Paper pass sensor
26. Paper drawer double feed prevention roller
27. Paper feed roller
28. Timing roller
29. Transfer/Separation corona
30. Paper tray bottom plate
31. Drum
32. Waste toner bottle full sensor
33. Waste toner bottle
34. Paper transport belt
35. Heat roller
36. Pressure roller
37. Separation finger
38. Paper exit sensor
39. Paper exit roller
40. Cleaning web roller
41. Cleaning web
42. Half-speed unit (No. 2/3 mirror)

3.2 Paper feed unit and Multi-sheet bypass paper feed unit

1. Paper tray loading operation

1) As the paper tray is gradually inserted, a protrusion on its far side pushes against the paper lifting cam. As a result, the paper lifting cam turns in the arrow direction.
2) The paper lifting cam gear and lifting gear rotate as the paper lifting cam rotates. The lifting spring pressure causes the lifting arm to raise the paper tray bottom plate, bringing the paper in contact with the paper feed roller.

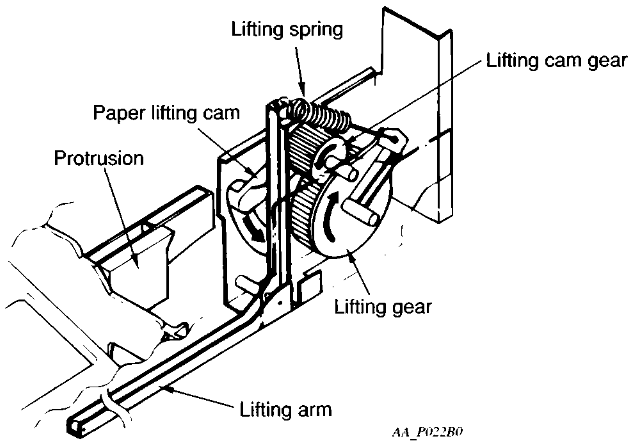

Lifting spring
Lifting cam gear
Paper lifting cam
Protrusion
Lifting gear
Lifting arm
AA_P022B0

Figure 3-2-1

2. Paper detecting operation

1) Whether or not the paper tray contains paper is detected by a paper detecting sensor and paper detecting sensor lever in the paper feed block.
2) When the paper tray contains paper, the paper detecting sensor lever is raised by the paper, causing the paper detecting sensor to remain OFF. When there is no paper in the paper tray, the paper detecting sensor lever enters a slot in the paper tray bottom plate, causing the paper detecting sensor to turn ON. At this time, the “Add Paper” indication is displayed, and the copier stops.

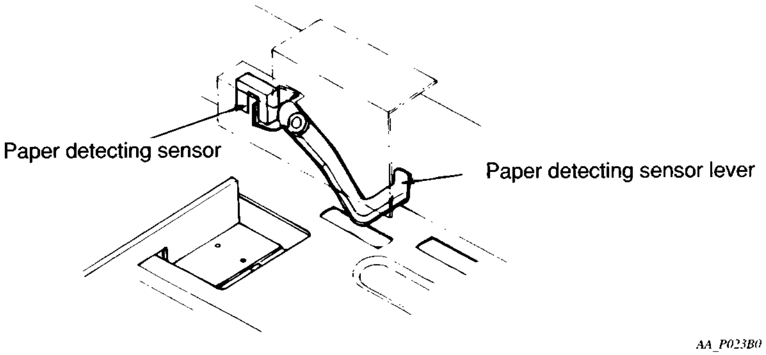

Paper detecting sensor
Paper detecting sensor lever
AA_P023B0

Figure 3-3-1

3. Paper tray unloading operation

1) As the paper tray is removed, the paper lifting cam rotates in the arrow direction. This causes the lifting cam gear and lifting gear to rotate in the reverse direction. The lifting arm lowers, causing the paper tray bottom plate to lower.

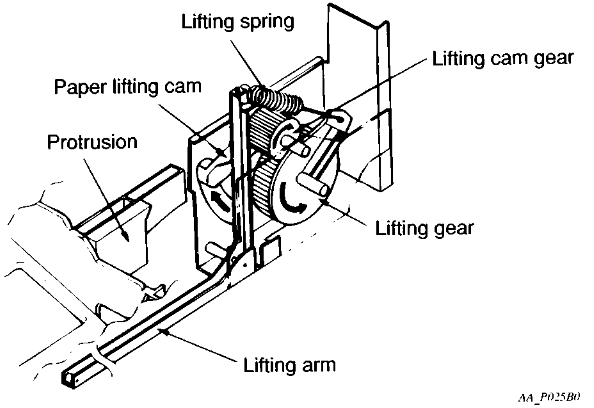


Figure 3-4-1

2) Normally, after the completion of a copy operation, a sheet of paper remains at the paper feed roller. If the paper tray is removed from the copier, the paper in the paper tray may be wrinkled or torn. The paper tray performs the following operation to prevent paper from remaining in the copier.
   - The double feed prevention roller is lowered to separate it from the paper feed roller.
   - When removing the paper tray, the paper feed roller moves slightly, allowing the tray to be removed without wrinkling or tearing the paper.

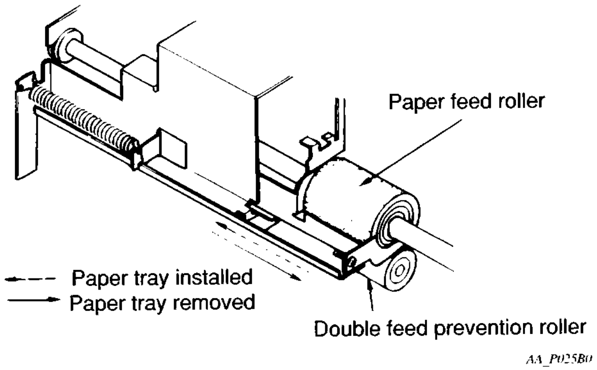


Figure 3-4-2

4. Paper size detection operation

1) When the paper tray is inserted, a paper size detecting feature located on the far side of the paper tray turns the paper size detecting sensors ON/OFF.
2) The paper size detecting sensor consists of a 3-sensor matrix configuration, which detects paper size using different sensor combinations when actuated by the slots in the paper size cam plate on the rear of the paper tray.

	A	B	C
A3	ON	ON	ON
B4.FLS	OFF	ON	ON
A4	OFF	OFF	ON
A4R	ON	OFF	OFF
A5	ON	OFF	ON

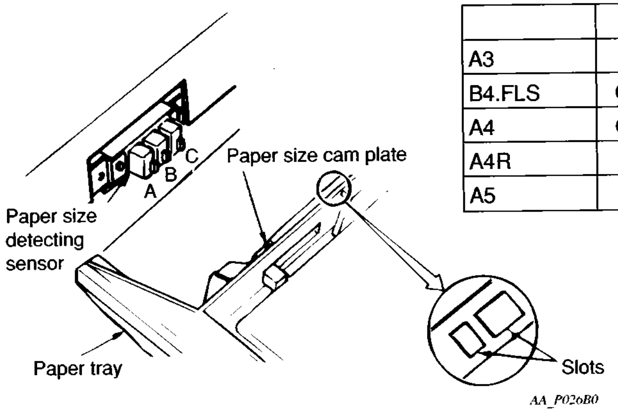


Figure 3-5-1

5. Paper feed sequence when the paper feed paper tray is selected.

1) When the "Print" key is pressed, the rotation of main motor is transmitted to drive belt (2) through several drive gears. The rotation of drive belt (2) is then transmitted to a transmission gear which drives the sleeve gear and timing roller gear; thereby completing a series of drive operations of the paper feed section.
2) At the same time, the paper feed clutch turns ON, and the paper feed roller starts rotating, feeding the paper from the paper tray to the paper transport roller.
3) Near the paper transport roller is a paper pass sensor which checks the paper feed status.
4) From the paper transport roller, the paper is fed to the timing roller and is detected by the timing roller sensor. For a predetermined time, the paper remains in contact with the timing roller.
5) Next, as the optical system starts executing its scan operation, the optics home position sensor detects the passing of the optical system; and after a predetermined time, the timing roller clutch rotates. Paper is then fed into the copier (the operating time of the timing roller clutch is determined separately for each paper size).
6) Paper is transported smoothly as a result of the pressure applied to the timing roller by the pressure springs located at both ends.

7) If the timing roller sensor and paper pass sensor do not detect the arrival of paper within a predetermined time, "Paper Jam", "Paper Jam Position", and "Wait" are displayed, +24V is cut off, and the copier stops.
8) A paper drawer double feed prevention roller, which contacts the paper feed roller through the paper turns at a constant torque level in the counterclockwise direction while feeding paper to the timing roller.
   Note: In the event of paper double feed, the paper drawer double feed prevention roller drops below its constant torque level, causing it to rotate in the counter-clockwise direction by the double feed prevention drive gear to stop the lower sheet of paper from feeding. The torque is determined by the torque limiter.

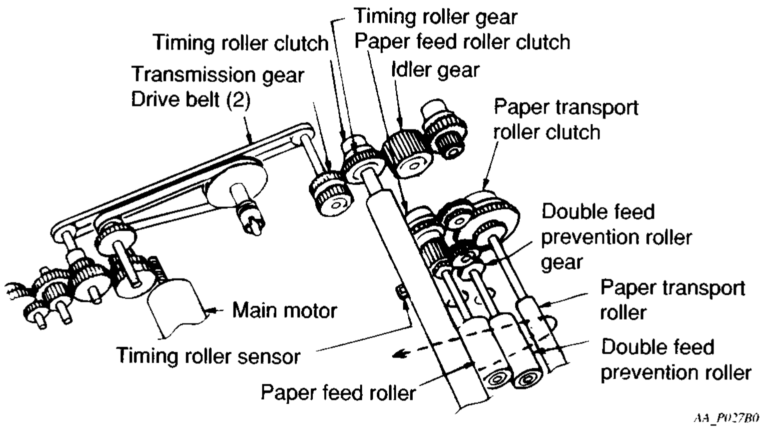

Timing roller gear
Timing roller clutch
Paper feed roller clutch
Transmission gear
Idler gear
Drive belt (2)
Paper transport roller clutch
Double feed prevention roller gear
Main motor
Paper transport roller
Double feed prevention roller
Timing roller sensor
Paper feed roller
AA_P027B0

Figure 3-6-1

Note: The paper tray is inserted from the operator's side of the copier toward the rear. Paper is fed from the paper tray to the right (toward sheet bypass side) to the paper feed unit. The paper is then turned and fed to the left to the timing roller and into the copier.

6. Multi-sheet bypass paper detecting operation

1) Whether or not the multi-sheet bypass tray contains paper is detected by a sheet bypass paper detecting sensor located on the sheet bypass block.
2) When the sheet bypass contains paper, the paper detecting sensor lever is raised by the paper, causing the sheet bypass paper detecting sensor to remain OFF. When there is no paper in the sheet bypass, the paper detecting sensor lever is lowered, causing the sheet bypass paper detecting sensor to remain ON.

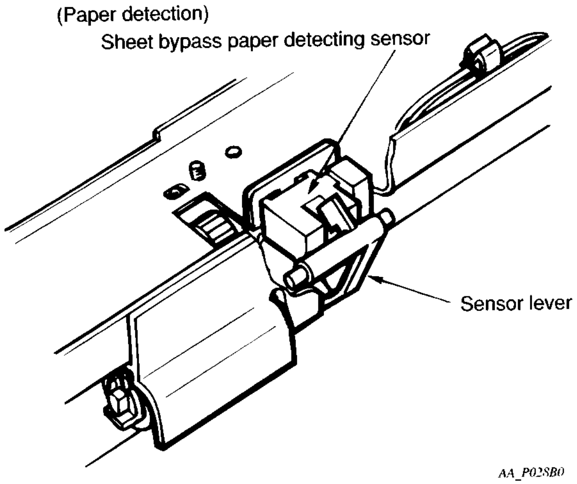

(Paper detection)
Sheet bypass paper detecting sensor
Sensor lever
AA_P028B0

Figure 3-7-1

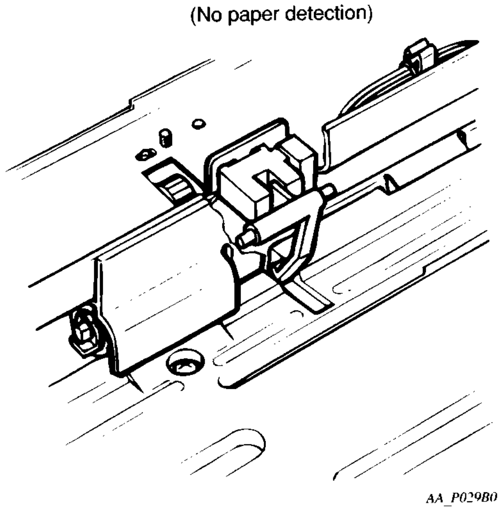

(No paper detection)
AA_P029B0

Figure 3-7-2

7. Multi-sheet bypass paper size detection operation (FP-2080)

1) The multi-sheet bypass section detects paper size with a sheet bypass paper size detecting sensor of matrix configuration, located on the multi-sheet bypass.
2) As paper is set in the multi-sheet bypass tray and the paper guide is aligned to the paper, the plastic molding on the paper guide actuates the opto sensors to indicate the paper sizes shown in the diagram.

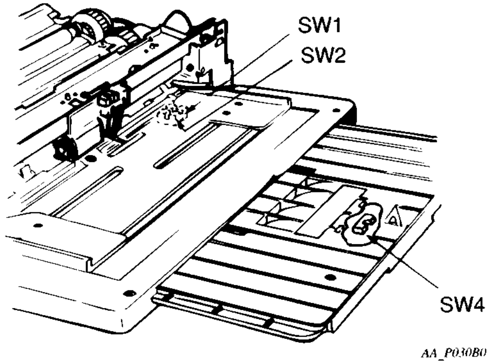

SW1
SW2
SW4
AA_P030B0

Figure 3-8-1

	SW1	SW2	SW4
A3	ON	OFF	ON
B4.FLS	ON	ON	ON
A4	ON	OFF	OFF
A4R	OFF	ON	OFF
A5	OFF	OFF	OFF

8. Multi-sheet bypass paper feed operation

1) When the multi-sheet bypass is selected and the "Print" key is pressed, the main motor rotation is transmitted to drive belt (2) via several drive gears. The rotation of drive belt (2) is transmitted to the transmission gear, causing the sheet by-pass clutch gear to rotate via the timing roller gear and idler gear.

Note: FP-1680 = Paper transfer roller and double feed prevention rolller do not apply.

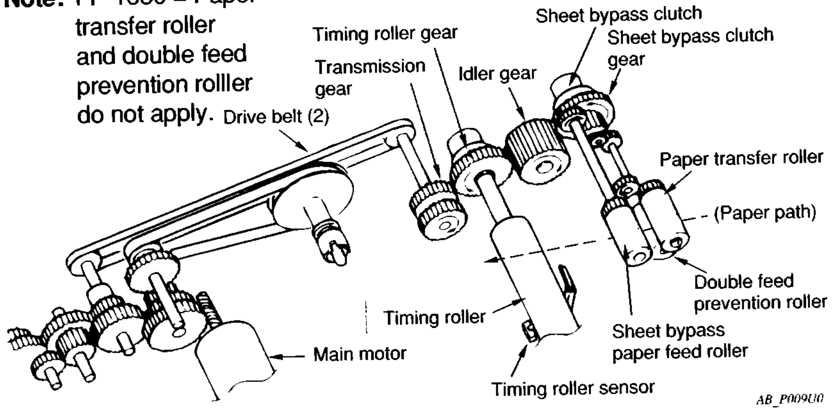

Timing roller gear
Sheet bypass clutch
Sheet bypass clutch gear
Transmission gear
Idler gear
Drive belt (2)
Paper transfer roller
(Paper path)
Double feed prevention roller
Timing roller
Sheet bypass paper feed roller
Main motor
Timing roller sensor
AB_P009U0

Figure 3-9-1

2) For FP-2080: After a predetermined time, the sheet bypass solenoid turns ON, the paper transfer roller is lowered to contact the paper. At the same time, the paper stopper is lowered to allow paper to be fed from the bypass.

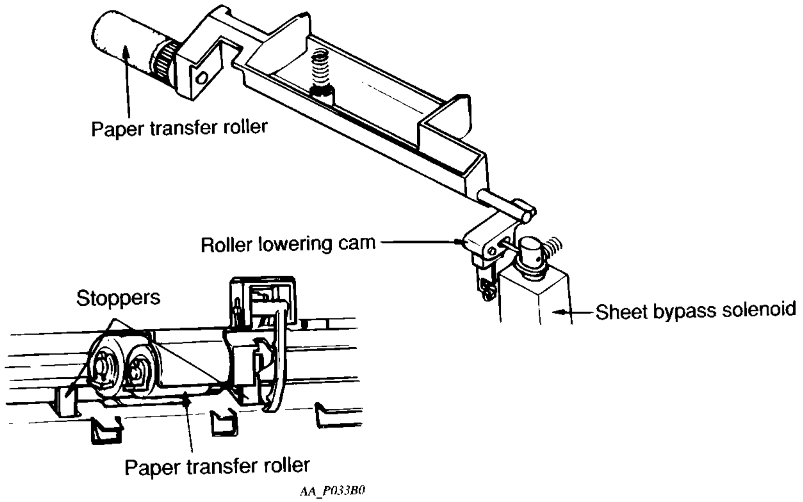

Paper transfer roller
Roller lowering cam
Stoppers
Sheet bypass solenoid
Paper transfer roller
AA_P033B0

Figure 3-9-2

3) Next, the sheet bypass clutch turns ON, and paper is fed by the paper transfer roller (for FP-2080) and the sheet bypass paper feed roller.
4) While on its way from the sheet bypass paper feed roller, the paper is detected by the timing roller sensor. After a predetermined time, the sheet bypass clutch turns OFF causing the sheet bypass paper feed roller and paper transfer roller (for FP-2080) to stop. At the same time, the sheet bypass solenoid (for FP-2080) turns OFF, and the paper transfer roller (for FP-2080) is raised.
5) For FP-2080: A sheet bypass double feed prevention roller, which contacts the sheet bypass feed roller through the paper turns at a constant torque level in the counterclockwise direction while feeding paper to the timing roller.

   Note: In the event of paper double feed, the sheet bypass double feed prevention roller drops below its constant torque level, causing it to rotate in the clockwise direction by the double feed prevention drive gear, to stop the lower sheet of paper from feeding. This torque is determined by the torque limiter.
6) For FP-2080: During continuous copying, the sheet bypass solenoid and sheet bypass clutch repeat the same operations, after the lapse of timing roller clutch operating time.

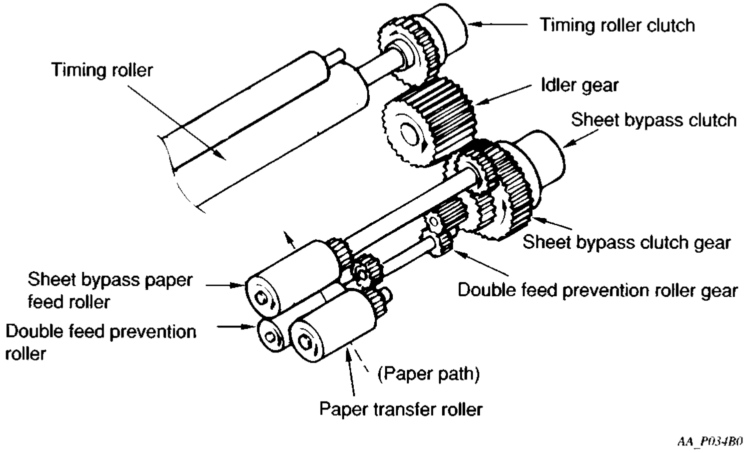

Timing roller clutch
Timing roller
Idler gear
Sheet bypass clutch
Sheet bypass clutch gear
Double feed prevention roller gear
Sheet bypass paper feed roller
Double feed prevention roller
(Paper path)
Paper transfer roller
AA_P034B0

Figure 3-10-1

9. Multi-sheet bypass removal

1) Removal of sheet bypass transfer roller (FP-2080)
   a) Close the multi-sheet bypass.
   b) Remove the multi-sheet bypass mounting covers (2 screws each).
   c) Remove the multi-sheet bypass tray.

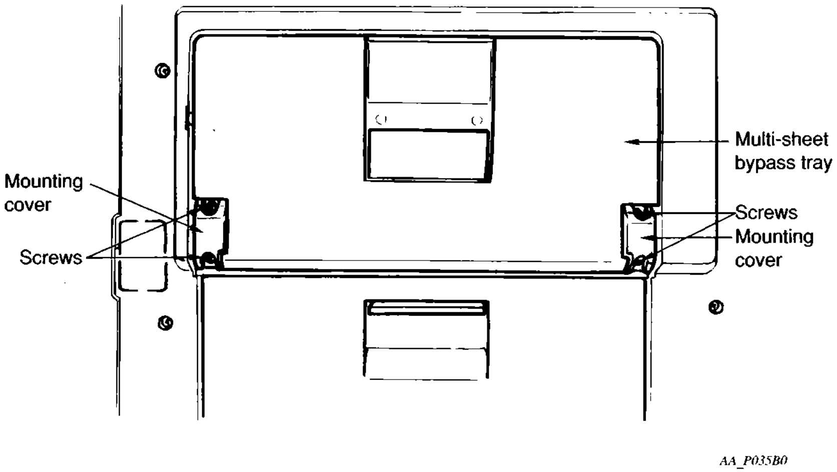

Multi-sheet bypass tray
Mounting cover
Screws
Screws
Mounting cover
AA_P035B0

Figure 3-11-1

   d) Remove the sheet bypass transfer roller (1 touch-ring).
   e) Reassemble in reverse order.

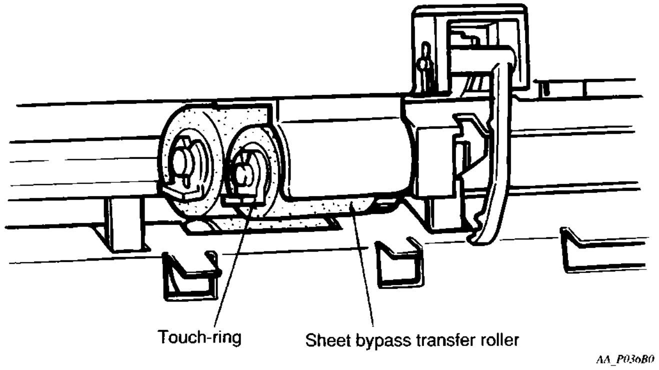

Touch-ring
Sheet bypass transfer roller
AA_P036B0

Figure 3-11-2

2) Removal of sheet bypass paper feed roller
   a) For FP-2080: Remove the multi-sheet bypass tray as described in step 1), steps a) to c).
   b) For FP-1680: Remove the sheet bypass tray (2 screws).

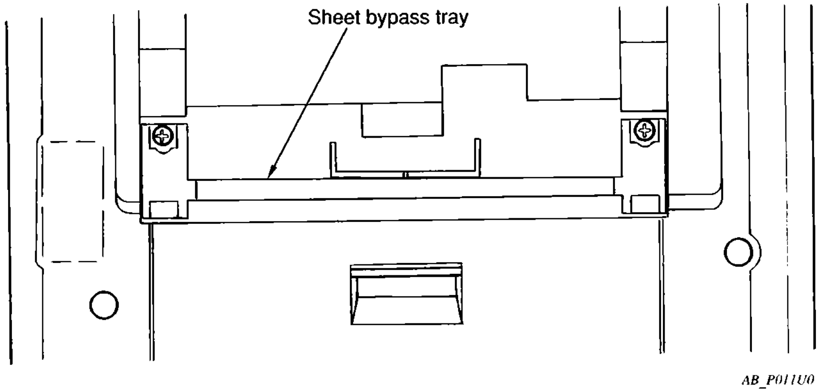

Sheet bypass tray
AB_P011U0

Figure 3-12-1

   c) Remove the sheet bypass paper feed roller (1 touch-ring).
   d) Reassemble in the reverse order.

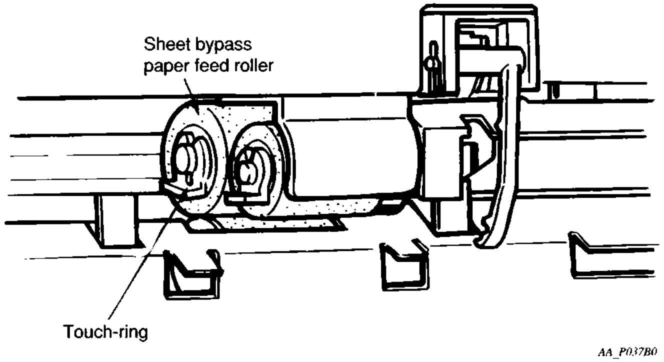

Sheet bypass paper feed roller
Touch-ring
AA_P037B0

Figure 3-12-2

3) Removal of sheet bypass double feed prevention roller (FP-2080)
   a) Remove the multi-sheet bypass tray as described in step 1), steps a) to c).
   b) Remove the sheet bypass paper guide (2 screws).

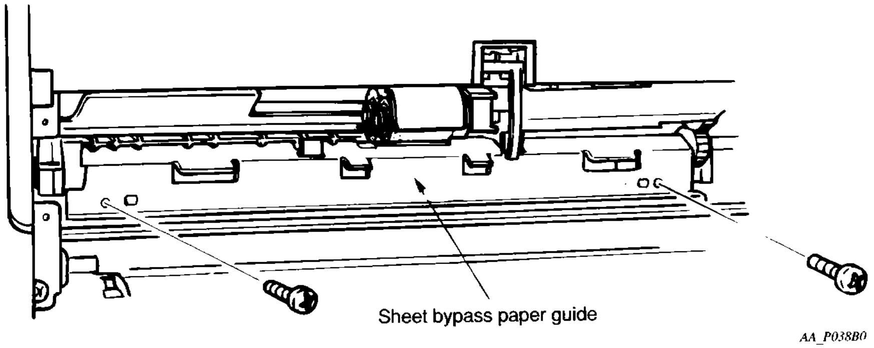

Sheet bypass paper guide
AA_P038B0

Figure 3-13-1

   c) Remove the sheet bypass double feed prevention roller (1 touch-ring).
   d) Reassemble in the reverse order.

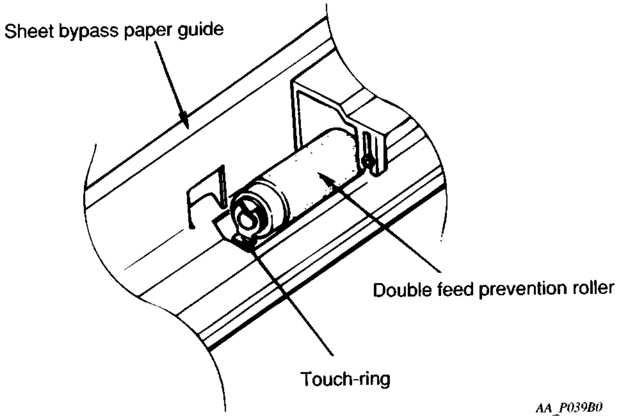

Sheet bypass paper guide
Double feed prevention roller
Touch-ring
AA_P039B0

Figure 3-13-2

10. Paper feed unit removal

1) Removal of double feed prevention roller
   - a) Close the multi-sheet bypass.
   - b) Open the paper feed unit door.

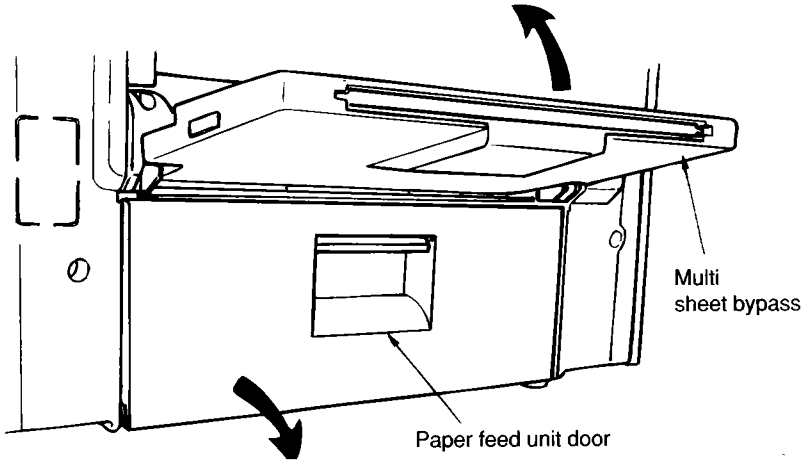

Multi
sheet bypass
Paper feed unit door

Figure 3-14-1

   - c) Pull the paper tray out fully, raise the paper tray and pull towards you to remove it.
   - d) Remove the double feed prevention roller (1 touch-ring).
   - e) Reassemble in the reverse order.

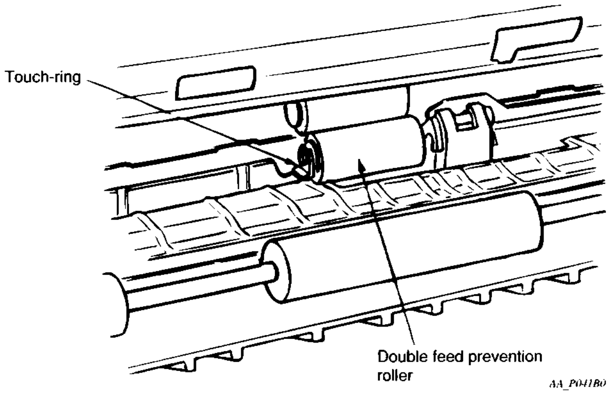

Touch-ring
Double feed prevention
roller
AA_P041B0

Figure-3-14-2

2) Removal of paper feed roller
   - a) Open the paper feed unit door.
   - b) Remove the paper feed guide (2 screws).

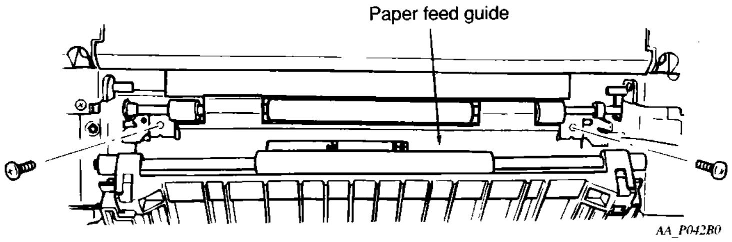

Paper feed guide
AA_P042B0

Figure 3-15-1

   - c) Pull the paper tray out fully, raise the paper tray and pull towards you to remove it.
   - d) Remove the paper feed roller guide plate (1 screw) from the inside of paper drawer section.
   - e) Remove the paper feed roller assembly.
   - f) Remove the paper feed roller from boss.
   - g) Reassemble in the reverse order.

Note: When the paper feed roller and boss are installed, the dot mark on the paper feed roller and the arrow direction mark on the boss are to the rear.

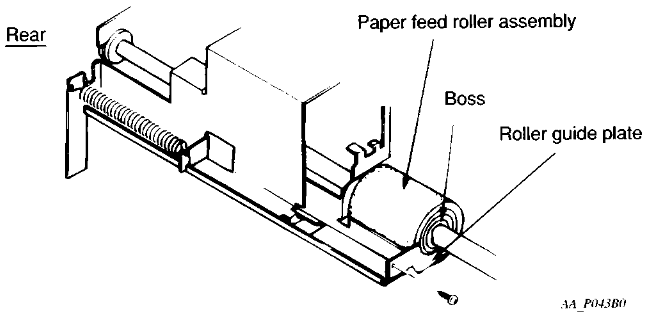

Rear
Paper feed roller assembly
Boss
Roller guide plate
AA_P043B0

Figure 3-15-2

3) Removal of paper feed door, paper transport guide plates (A) and (B).
   a) Open the paper feed door.
   b) Remove the paper feed door support (2 pieces).
   c) Open the paper feed door fully, then remove it.

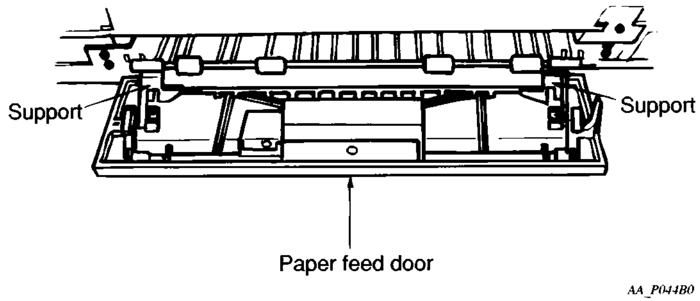

Support
Support
Paper feed door
AA_P044B0

Figure 3-16-1

   d) Remove the paper transport guide plate (A) support pin (2 pieces).
   e) Open the paper transport guide plate (A) fully, then remove it.

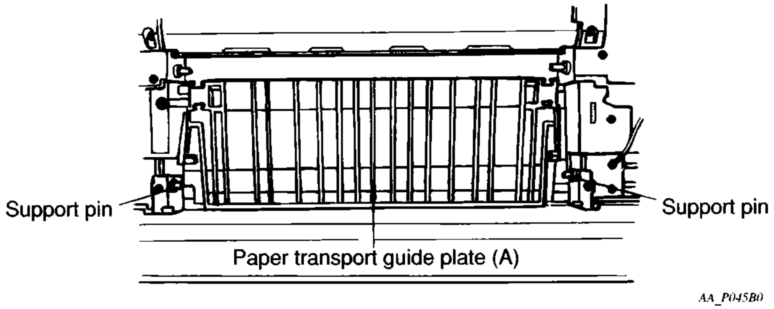

Support pin
Support pin
Paper transport guide plate (A)
AA_P045B0

Figure 3-16-2

   f) Open the paper transport guide plate (B) fully, then remove it.

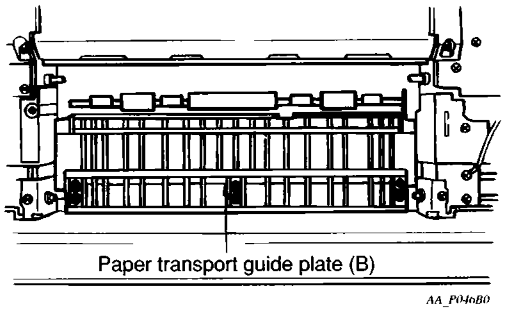

Paper transport guide plate (B)
AA_P046B0

Figure 3-16-3

   g) Reassemble in the reverse order.

3.3 Developer section

Developer section consists of two units:
The drum unit on which the electrostatic latent image is formed and the developer unit which supplies toner to the latent image.

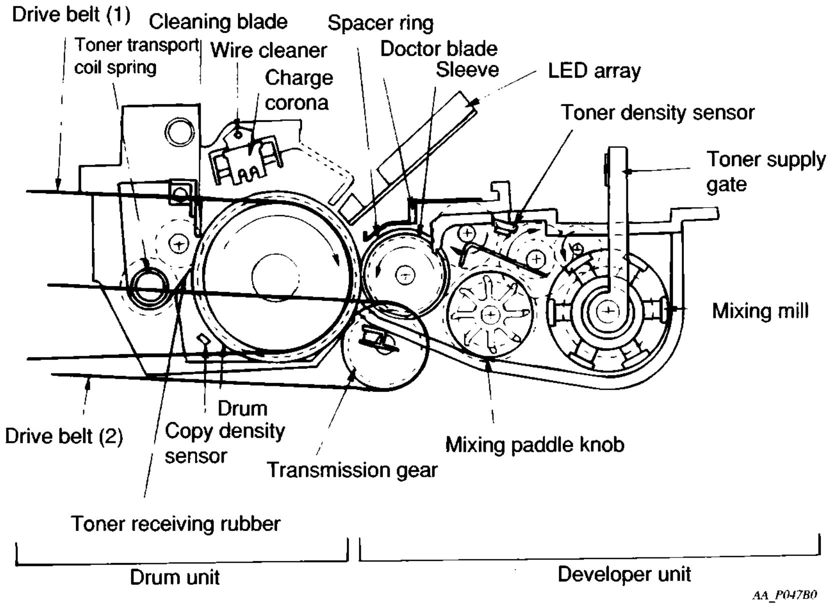

Drive belt (1)
Toner transport coil spring
Cleaning blade
Wire cleaner
Charge corona
Spacer ring
Doctor blade
Sleeve
LED array
Toner density sensor
Toner supply gate
Mixing mill
Drive belt (2)
Drum
Copy density sensor
Transmission gear
Mixing paddle knob
Toner receiving rubber
Drum unit
Developer unit
AA_P047B0

Figure 3-17-1

1. **Developer unit operation**
   1) The sleeve, which is a rotating aluminum cylinder, rotates counterclockwise at 191 rpm. The magnet inside the sleeve causes the mixed developer to adhere to the sleeve's outer surface where it forms a magnetic brush. The sleeve moves in the counterclockwise direction. A doctor blade, mounted 0.73mm from the sleeve, determines the height of the magnetic brush as the developer passes through the gap.
   2) The drum on which the electrostatic latent image has been formed (negative charge pattern) is rotating in the clockwise direction, and contacts the magnetic brush of the sleeve.
      The gap between the drum and sleeve is 0.85mm.
      The sleeve assumes the opposite polarity (positive), so the toner adheres to the electrostatic latent image. Meanwhile, a bias voltage of –250VDC is being applied to the sleeve in order to regulate the amount of toner adhering to the drum as well as the dispersal of toner.
      The 0.85mm gap between the drum and sleeve is regulated by a spacer ring with a diameter that is 1.70mm larger than the sleeve diameter and contacts the edges of the drum.

2. Developer mixing operation

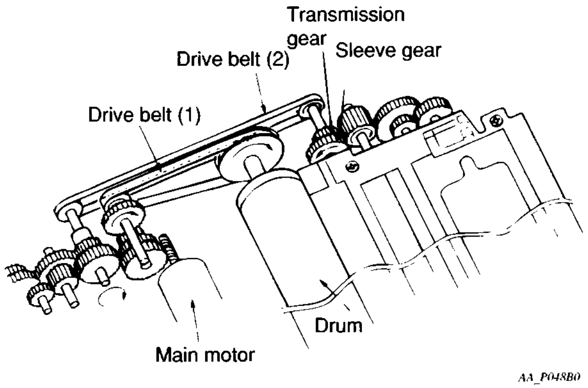

Transmission gear
Sleeve gear
Drive belt (2)
Drive belt (1)
Drum
Main motor
AA_P048B0

Figure 3-18-1

1) The developer (approx. 950 g) is kept inside the developer mixing section; 3.3% is powdered non-magnetic toner and the rest consists of magnetic carrier particles.
2) The rotation force of the main motor is transmitted from drive belt (2) via various drive gears to the transmission gear, which rotates the sleeve gear. The sleeve gear, which is interlocked with the gears of the mixing section, performs the mixing operation of the developer and causes the toner and carrier particles within the developer unit to respectively assume a positive (+) and negative (–) friction charge.
3) Rotation of the drum is driven by the rotation force of the main motor via drive belt (1).

3. Developer unit mounting

1) When the developer unit lever on the upper right side of the copier is turned, the release cam that presses the developer unit spacer ring against the drum edge turns at the same time to release or lock the developer unit in place.

   Note: When the developer unit release lever is turned, and the developer unit spacer ring does not contact the drum edge, turn the mixing paddle knob to the left.

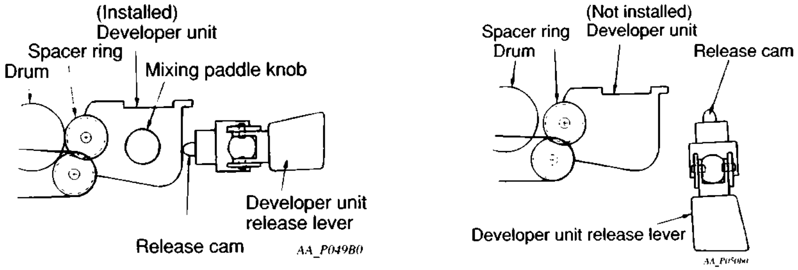

(Installed)
Developer unit
Spacer ring
Drum
Mixing paddle knob
Developer unit release lever
Release cam
AA_P049B0
(Not installed)
Spacer ring
Developer unit
Drum
Release cam
Developer unit release lever
AA_P050B0

Figure 3-18-2

4. Color developer unit discrimination

When installing and setting up a color developer unit, the appropriate jumper wire on the rear of the color developer unit must be cut.

Color	J511	J512	J513
Red	O	O	O
Blue	O	X	O

O = No cut
X = Cut

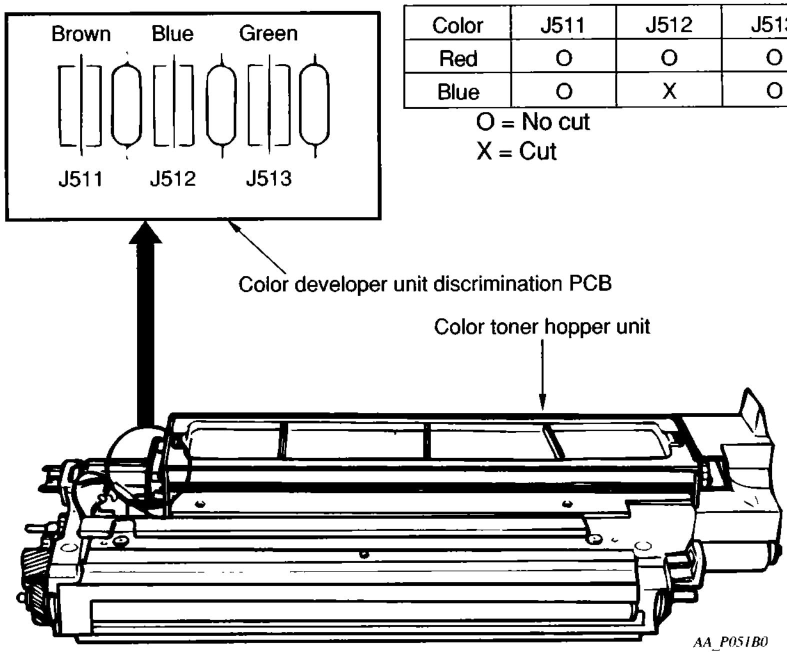

Brown
Blue
Green
J511
J512
J513
Color developer unit discrimination PCB
Color toner hopper unit
AA_P051B0

Figure 3-19-1

Each color developer unit will require its own TDC adjustment.

Note: The installation of more than one color unit containing the same color developer is not recommended. The toner density settings will not be accurate.

5. Toner density control (Automatic toner density control: Inductance method)

1) The toner density sensor mounted in the developer mixing section controls the toner density. The toner density sensor uses a inductance type sensor. When it detects the toner amount in the developer mixing section as being below the standard level, a fixed amount of toner is supplied to the developer mixing section.
   The toner density sensor also maintains a suitable range by the temperature/ humidity sensor mounted on the ozone filter assembly. (There is a ozone filter assembly installed close to the drum unit.)
2) The developer is a mixture of a magnetic carrier and non magnetic toner. If the toner amount in the developer mixing section is above the predetermined amount, the percentage of magnetic carrier is less which decreases the magnetic resistance. Inversely, if the toner amount in the developer mixing section is below the predetermined amount, the percentage of magnetic carrier is greater, which increases the magnetic resistance. The toner supply is regulated by the detection of the changes in magnetic resistance.
   Note: When using magnetic materials, the magnetic resistance decreases as the cross-sectional area increases, or as the magnetic path shortens. The inductance type sensor has the same core as drive coil L1, detection coil L3, and standard coil L2. Therefore, when L1 is driven by a high frequency, the output voltages of L2 and L3 at the standard toner density level become equal. This allows detection coil L3's output to change, to correspond with the changes in toner density

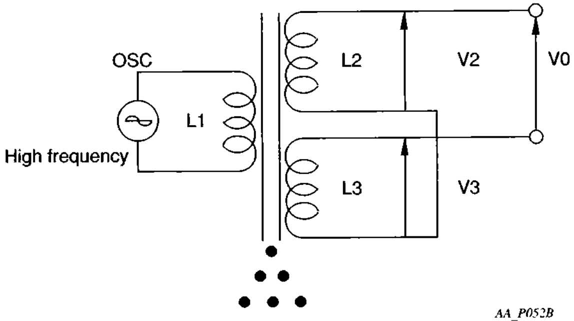


Figure 3-20-1

3) When the toner is consumed and the toner density decreases, the sensor output (VO) increases. When the sensor output exceeds the standard voltage (Vs), the toner bottle motor rotates the toner bottle to supply toner to the developer mixing section.
   This maintains a uniform toner density.

6. Manual toner supply

Toner is supplied automatically, but can be supplied manually to the developer mixing section when required. Manual toner addition is performed by pressing the “PAPER TRAY/PAPER SIZE” and “Multi-Copy” key “0”. When these keys are pressed simultaneously, the toner bottle will rotate two times and add approx. 2 grams of toner.

7. Drum unit operation

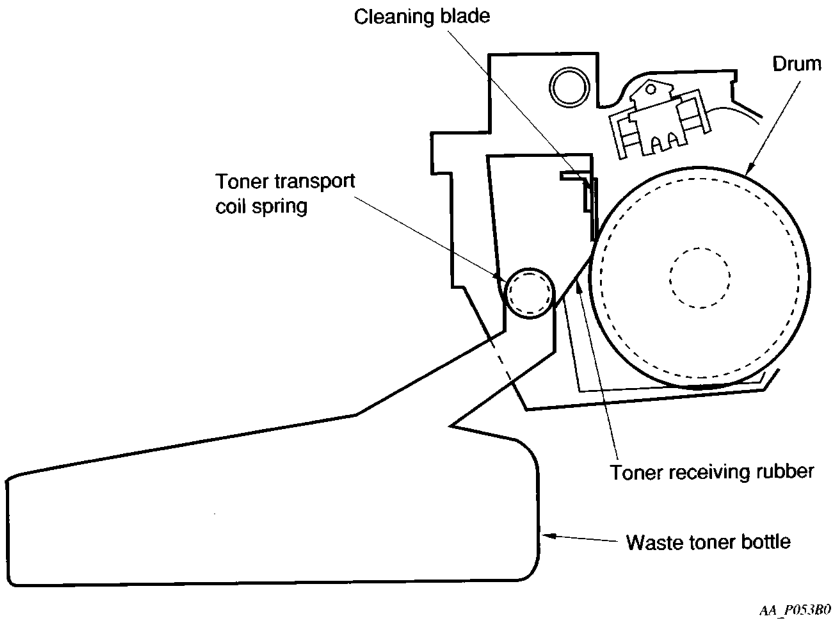


Figure 3-21-1

1) After developing and transfer are completed, during a copy process, some toner is left on the drum surface. This remaining toner is scraped off by a cleaning blade. The cleaning blade remains in constant contact with the drum surface at a fixed pressure (due to the elasticity of the cleaning blade) and functions to clean the drum surface.
2) The remaining toner scraped off by the cleaning blade is fed into the cleaning frame and carried to the front of the drum unit by the rotation of the toner transport coil spring, then stored in the waste toner bottle for disposal.
3) The amount of toner in the waste toner bottle is detected by the waste toner bottle full sensor. When the toner reaches a predetermined amount, the “Waste toner bottle full”indicator lights.

8. Digital system control operation (stabilization of copy image)

Note: Temperature/humidity sensor: FP-2080 only.

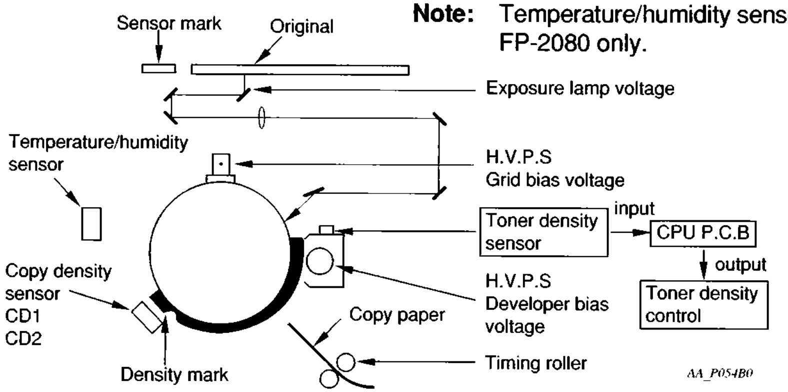

Sensor mark
Original
Exposure lamp voltage
Temperature/humidity sensor
H.V.P.S
Grid bias voltage
Toner density sensor
input
CPU P.C.B
output
Toner density control
Copy density sensor
CD1
CD2
H.V.P.S
Developer bias voltage
Copy paper
Timing roller
Density mark
AA_P054B0

Figure 3-22-1

1) In order to prevent changes in the copy density over time, caused by the effect of changes in the drum's properties, temperature fluctuations, etc. on the developer's toner density (even at standard level), copy density sensors are mounted at the drum unit rail (left), and a temperature/humidity sensor is mounted on the ozone filter assembly next to the drum unit.
2) The copier uses a two piece "Copy density sensor" (CD sensor #1 and CD sensor #2) and a temperature/humidity sensor. At intervals the temperature and humidity of the inside of copier will be detected by the temperature/humidity sensor. When the temperature falls, the drum surface electric potential does not reach standard voltage. When the humidity is low/high, the copy image will lighter/darker. CD sensors #1 and #2 function to eliminate background on non-image areas and to increase image density on imaged areas by detecting the white sensor mark and the gray sensor mark, both located under the original guide plate.
   When the power switch is turned on, or the front door is opened and closed, the temperature/humidity sensor detects the inside of temperature and humidity of the copier. CD sensor #1 will reads the white patch at several different bias levels, and CD sensor #2 read the gray patch at the same bias voltage levels, to monitor the image density. Both CD sensor #1 and #2 will then adjust the grid bias voltage, developer bias voltage and exposure lamp voltage to eliminate background on the copy and to compensate for any changes in the image density.
   At predetermined time between PM's or at the end of a long copy run, the copier will perform these checks and adjustments to ensure optimum copy quality. This ten second self-adjustment can occur at almost any time during the day.
3) The Digital System Control operation can be turned off using F5-25, this allows the copier systems (such as bias and main charge) to be checked and adjusted.

9. Developer unit removal

1) Replacement of developer (Black)

Caution: After the developer is replaced, the automatic gain adjustment for the Toner Density Sensor and the Image Density Standard adjustment must be performed.

Note: Prior to the Image Density Standard adjustment, toner addition must be performed. Press the "PAPER TRAY/PAPER SIZE" and MULTI-COPY key "0" once. Then F8-09 must be done, once. (Refer to 4.6 Image Density Standard adjustment on page 4-8.)

a) Release the hopper unit release lever, and the hopper unit will move to the left.
b) Turn the developer unit release lever clockwise.
c) Remove the developer unit.

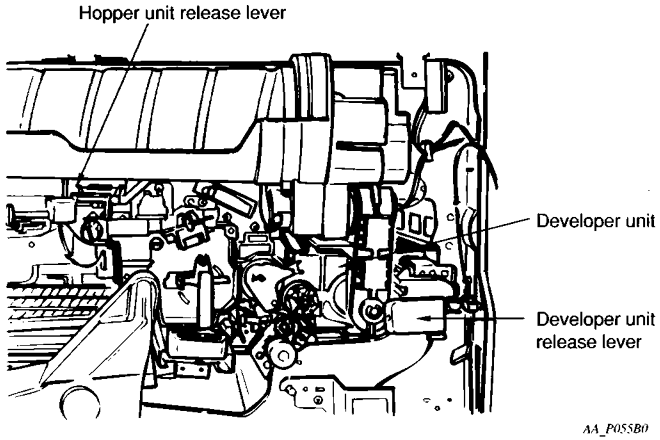

Hopper unit release lever
Developer unit
Developer unit release lever
AA_P055B0

Figure 3-23-1

d) Remove the developer unit lid.

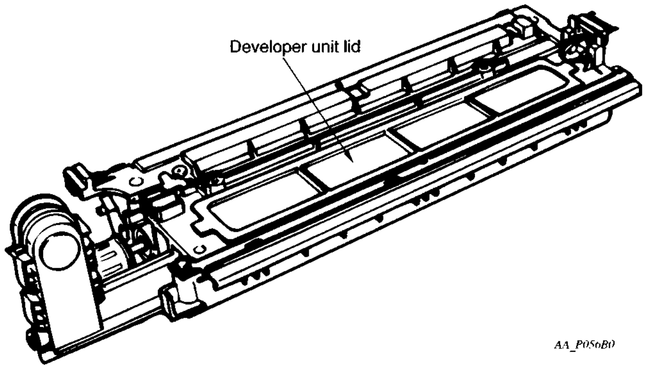

Developer unit lid
AA_P056B0

Figure 3-23-2

e) Tilt the developer unit over a newspaper or a suitable container. The majority of the developer should fall out. Some developer will remain on and under the magnetic roller.
f) Turn the mixing paddle knob in one direction, then reverse the direction. More developer should come out. Alternate the rotation and use a brush and vacuum cleaner to remove the remaining developer.
g) Take a new bottle of developer and shake it approximately 10 to 15 times.
h) Pour the entire bottle of developer into the unit evenly.
i) Reassemble in the reverse order.

2) Removal of spacer rings (front and rear)
   a) Remove the developer unit as described in step 1), steps a) to c).
      Note: ● Be sure to scribe mark the position of developer unit front frame, and magnetic pole plate before removing.
      ● When the magnetic pole plate is installed, align the scribe mark on the magnetic pole plate with the scribe mark on the developer unit front frame.
   b) Remove the magnetic pole plate (1 screw).
   c) Remove the spacer ring (front) (1 Grip-ring).
   d) Remove the idler gear (1) (1 E-ring).
   e) Remove the magnetic roller gear (1 Grip-ring).
   f) Remove the spacer ring (rear).
   g) Reassemble in the reverse order.

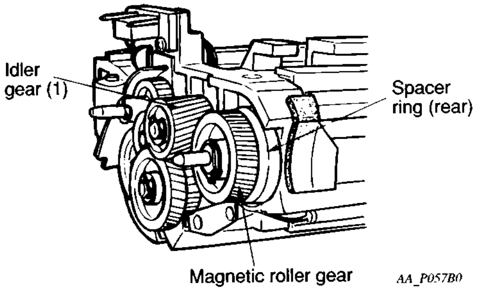


Figure 3-24-1

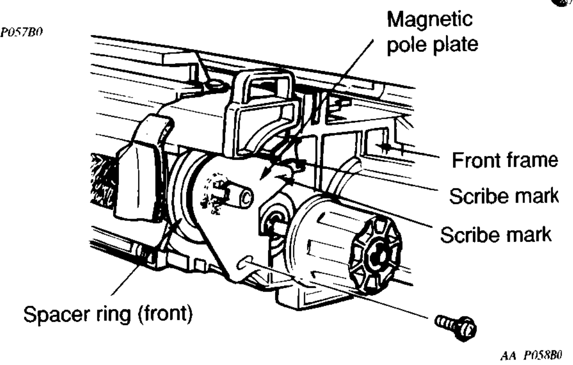


FIgure 3-24-2

3) Replacement of color (red, blue) developer
   After the developer is replaced, the automatic gain adjustment for the toner density sensor adjustment must always be performed. (Refer to F8-09 Copier operation adjustment.)
   a) Turn the developer unit release lever clockwise.
   b) Remove the color developer unit.
   c) Disconnect the color unit discrimination PCB connector.
   d) Remove the color toner hopper unit (2 screws).

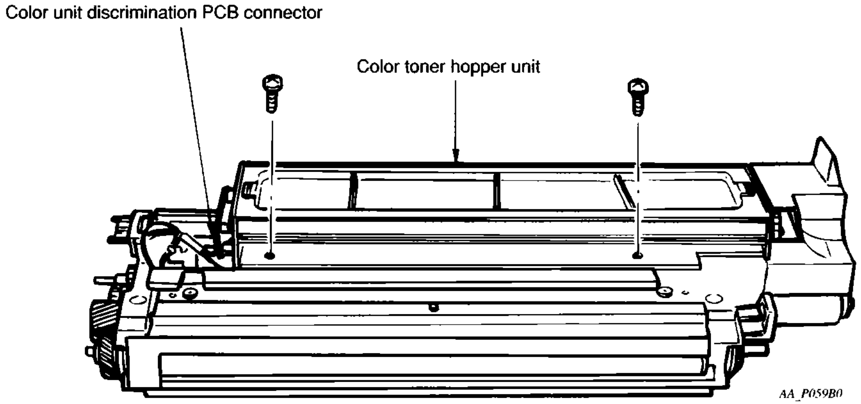


Figure 3-25-1

   e) Remove the developer unit lid.
   f) Tilt the color developer unit over newspaper or a suitable container. The majority of the developer should fall out. Some developer will remain on and under the magnetic roller.
   g) Turn the mixing paddle knob in one direction, then reverse the direction. More developer should come out. Alternate the rotation and use a brush and vacuum cleaner to remove the remaining developer.
   h) Take a new bottle of color developer and shake it approximately 10 to 15 times.
   i) Pour the entire bottle of developer into the unit evenly.
   j) Reassemble in reverse order.

10. Drum unit removal

1) Removal of charge corona
   a) Release the developer unit as described in step 1) of 9. Developer unit removal, steps a) to c).
   b) Lower the paper transport unit .
   c) Remove the waste toner bottle.
   d) Remove the drum unit (1 thumbscrew).
   e) Remove the charge corona mounting screw (1 screw).
   f) Remove the charge corona in the arrow direction.
   g) Reassemble in the reverse order.

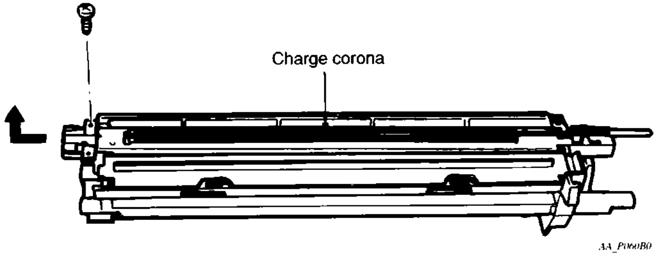

Charge corona
AA_P060B0

Figure 3-26-1

2) Removal of cleaning blade
   a) Remove the drum unit as described is step 1), steps a) to d).
   b) Hold the drum unit cover knob, and remove the drum unit cover.

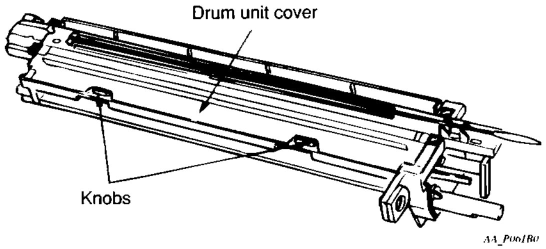

Drum unit cover
Knobs
AA_P061B0

Figure 3-26-2

   c) Remove the pressure spring.

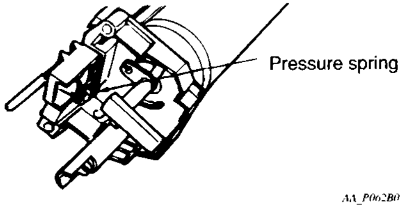

Pressure spring
AA_P062B0

Figure 3-26-3

   d) Remove the cleaning blade housing in the arrow direction and remove the cleaning blade.
   e) Reassemble in the reverse order.

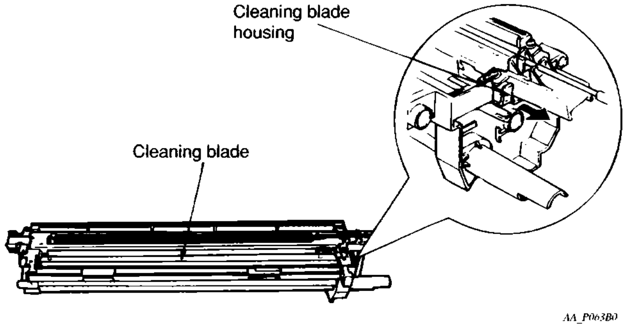
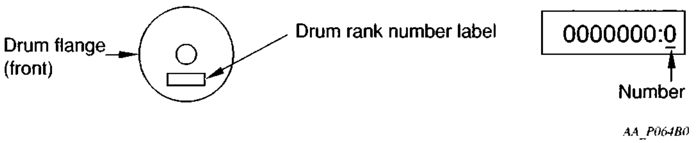

Cleaning blade housing
Cleaning blade
AA_P063B0

Figure 3-27-1

3) Removal of drum

Caution: After the drum is replaced, the Image Density Standard adjustment must be performed.
(Refer to 4.6 Image Density Standard adjustment on page 4-8)

Note: The drum should always be handled with care, whenever a drum is installed or removed in a drum unit.
- Before installing the drum, the rank must be adjusted according to the drum sensitivity.


Drum flange (front)
Drum rank number label
0000000:0
Number
AA_P064B0

1) Check the drum rank number label on the drum flange (front).
2) Set the copier to the service mode and press multi-copy key “6” to enter the F6 mode.
3) Press “Print” key.
4) Press multi-copy keys “2” and “0”.
5) Press “Recall” key.
6) Press multi-copy key for drum rank number.
7) Press the “Print” key, the drum rank number change is now in memory.
8) Release the service mode.

Do Not:
- Touch the drum or mar the drum surface.
- Expose the drum to steam, saliva, or any other liquid.
- Expose the drum to high heat conditions.
- Expose to direct sunlight. Always cover the drum when removed from the copier with a clean sheet of paper.
- Expose to areas with high chemical fume concentration.

a) Remove the drum unit as described in step 1), steps a) to d).
b) Remove the drum stopper screw (1 screw).
c) Turn the drum stopper counterclockwise, and remove the drum stopper.
d) Remove the drum.

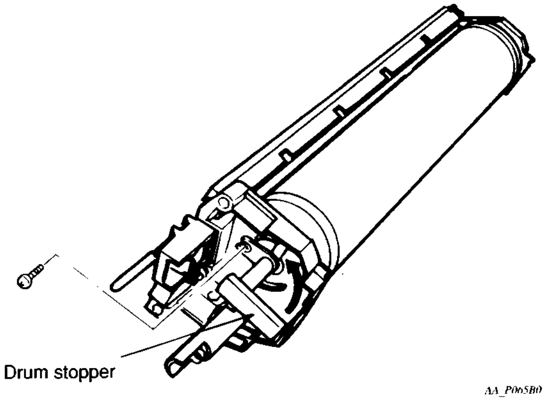


Figure 3-28-1

4) Removal of side seals (front and rear)
   a) Remove the drum as described in step 3), steps a) to c).
   b) Remove the side seals (front and rear).
   c) Install new seals.
   d) Reassemble in the reverse order.

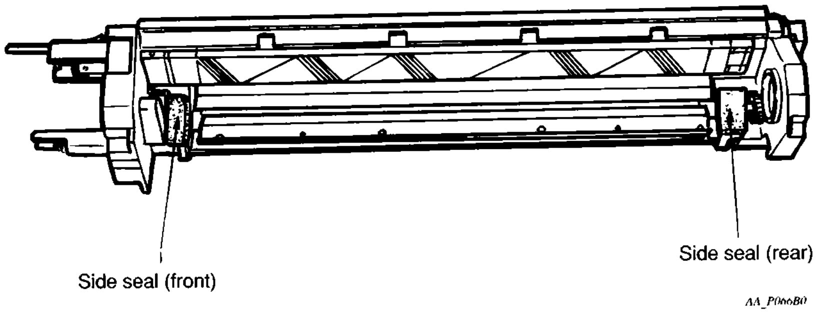


Figure 3-28-2

5) Drum cleaning

Drum cleaning should be done only when absolutely necessary. Do not use alcohol and organic matter.

Note:
- Partial cleaning of the drum should be avoided.
- Even if the blot on the drum surface is partial, the whole surface must be cleaned.
- Cleaning the drum could reduce the normal life of the drum. Only clean when absolutely necessary.
- Clean the spacer rings on the developer unit when cleaning the drum.

a) Remove the drum as described in step 3), steps a) to c).
b) With a soft pad wipe off lightly any foreign substance on the drum surface such as toner and dust.
c) Clean the drum flanges with a soft pad.
d) Reassemble in the reverse order.

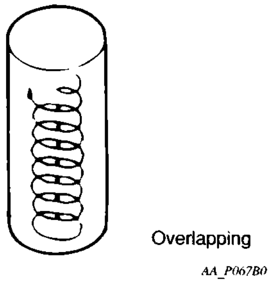


Figure 3-29-1

3.4 Hopper unit

1. Toner supply operation

The hopper unit stores the toner which is supplied in fixed amounts to the developer mixing section on the basis of signals from the microprocessor.

1) When the toner density sensor judges that the toner density is too light, the microprocessor outputs a signal for rotating the toner bottle motor, causing the toner bottle to rotate.
2) The rotational force of the toner bottle motor is transmitted via drive gears to rotate the bottle holder and toner supply coil so toner can be supplied to the developer mixing section. The toner bottle rotates together with the bottle holder and supplies toner to the toner supply section when the bottle's toner supply gate is in the lower position.
3) When replacing the toner bottle, the toner supply section must be detached. To prevent leakage of the toner at this time, the hopper release lever causes a shutter to automatically close off the toner supply section.

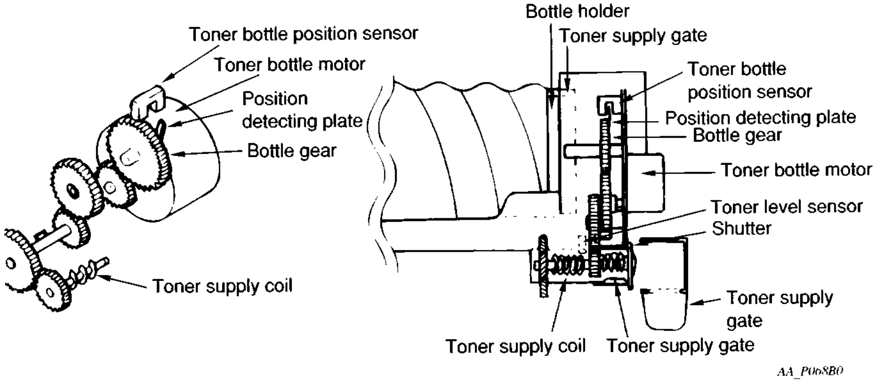

Toner bottle position sensor
Toner bottle motor
Position detecting plate
Bottle gear
Toner supply coil
Bottle holder
Toner supply gate
Toner bottle position sensor
Position detecting plate
Bottle gear
Toner bottle motor
Toner level sensor
Shutter
Toner supply gate
Toner supply coil
Toner supply gate
AA_P008B0

Figure 3-30-1

2. Toner level detection

When the toner level sensor, which is located in the lower portion of the toner hopper, detects a below standard level of toner, the "Add toner" indicator lights. This toner level sensor consists of a piezoelectric element sensor which generates an "Add toner" signal whenever the toner level falls below a predetermined amount. This signal causes the microprocessor to light the "Add toner" indicator to prompt the operator to add toner.

3. Toner bottle position detection

1) The toner bottle supply gate in the toner bottle is always in the upper position, except when toner is to be supplied to the toner supply section.
2) When either the power switch is turned ON or the toner supply runs out and the toner bottle position sensor is not turned ON, the toner bottle motor will rotate which causes the bottle gear on which the position detection plate is mounted to rotate with the (toner) bottle holder.
3) The toner bottle position sensor, which is mounted in the hopper unit is turned on by the rotating position detecting plate. When this sensor is turned ON, the toner bottle motor stops rotating and the toner supply gate in the toner bottle is returned to its upper position.

3.5 Paper transport unit

1. Paper transport operation

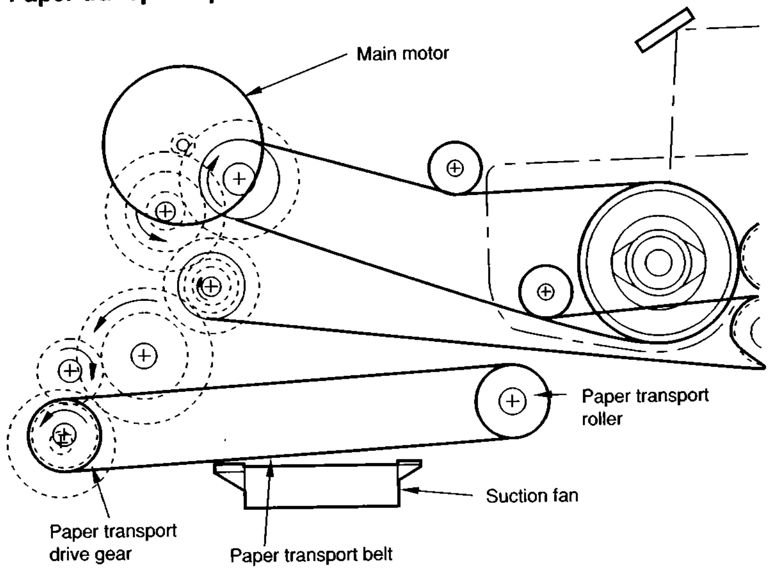

Main motor
Paper transport roller
Suction fan
Paper transport drive gear
Paper transport belt

Figure 3-32-1

1) After completion of transfer and separation, the copy is fed to the fuser unit by the transport unit. The rotational force of the main motor is transmitted via drive gears to the paper transport drive gear, paper transport drive roller, paper transport roller, and paper transport belt.
2) The lower portion of the transport unit has a suction fan motor which draws the copy paper to the belt for smooth paper movement, while at the same time draws in the ozone generated by the transfer/separation corona.

3.6 Fuser unit

1. Fuser operation

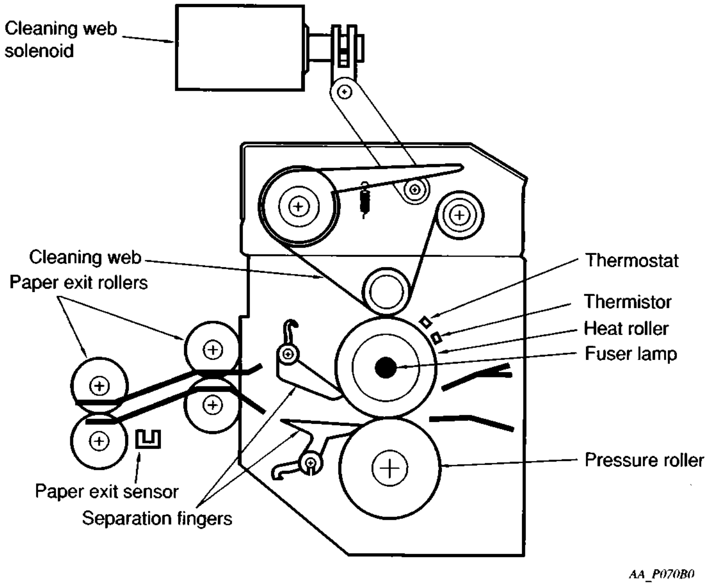

Cleaning web solenoid
Cleaning web
Paper exit rollers
Thermostat
Thermistor
Heat roller
Fuser lamp
Pressure roller
Paper exit sensor
Separation fingers
AA_P070B0

Figure 3-33-1

1) The heat roller is teflon coated, and in its center, is a fuser lamp (halogen lamp) that serves as the heat source. The surface temperature of the heat roller is approximately 180°C. The temperature is detected by a thermistor which is in contact with the heat roller. The CPU control circuit switches the fuser lamp ON/OFF in order to maintain a constant temperature for the heat roller.
2) Above the heat roller a thermostat is mounted to prevent accidents due to abnormal temperature increases of the heat roller. The thermostat turns off the fuser lamp if the heat roller temperature reaches an abnormal temperature.
3) The heat roller is driven by the main motor via the fuser drive gear. The pressure roller is silicon rubber and applies a linear pressure of approximately 0.4 kg/cm to the heat roller. This pressure can be adjusted by the pressure spring.
4) Separation fingers are compressed against the heat roller and pressure roller respectively to prevent the copy paper from sticking to the rollers.
5) To prevent the heat roller from getting dirty during copy operations, it is constantly cleaned by a cleaning web installed above it.

2. Fuser sequence

1) When the power switch is turned ON, the fuser lamp lights and the heat roller starts to warm up.
2) When the temperature in the heat roller reaches approx. 190°C, the main motor turns ON and rotates the heat roller, pressure roller and the paper exit rollers (upper and lower).
3) At this time, developer unit initialization starts.
4) After a predetermined time for initialization, the main motor is turned OFF, the red indicator in the "Print" key goes off, and copy ready condition is obtained. The fuser lamp is turned ON/OFF repeatedly to keep the heat roller at a constant temperature. (During copying, the heat roller temperature is also kept constant by the thermistor.)
5) During the final copy operation, the paper exit sensor is turned ON when detecting the paper exiting, and within a predetermined time, the main motor turns OFF. The heat roller, pressure roller and upper and lower exit rollers stop.

Note:
- If the heat roller does not reach the proper operating temperature within a predetermined time after the fuser lamp is lit, "E4" and "01" will appear in the display.
- During the copy operation, the fuser lamp is turned ON. If the heat roller temperature is not detected within 10 minutes, "Wait" is displayed on the control panel and the copy operation will stop after exiting the paper. (Copy operation is available by pressing the "Print" key again after the "Wait" indication goes off.)
- When "E4" and "01" are displayed, "E4" and "01" can be cleared by opening/closing the front cover or by turning the power switch OFF/ON after the repair is completed.
- When the thermistor is short-circuited or open, "E4" and "01" are displayed.

3. Cleaning web drive operation

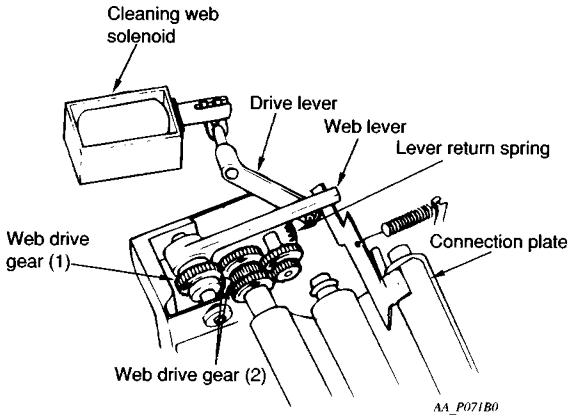


Figure 3-35-1

1) When the copy operation is begun, the cleaning web solenoid is turned on, causing the drive lever to lift the web lever. Lifting of the web lever is accompanied by simultaneous rotation of web drive gear (1), the rotational force of web drive gear (1) is transmitted via web drive gear (2) and a reduction gear to take up the cleaning web.
2) When the cleaning web solenoid is turned off, the drive lever and web lever are returned to their original position by the lever return spring. As a result of this operation combined with the cleaning web solenoid being repeatedly turned on/off, the cleaning web is taken up at the required speed.
3) The amount by which the cleaning web is taken up will differ at the beginning and end of cleaning web use. To correct this difference, a correction plate remains in contact with the cleaning web to detect the take-up status of the cleaning web and correct the amount of take-up by changing the position of the web lever.

4. Fuser unit removal

1) Removal of separation fingers (upper)
   - a) Open the paper exit door.
   - b) Remove the upper separation finger mounting bracket (2 screws).

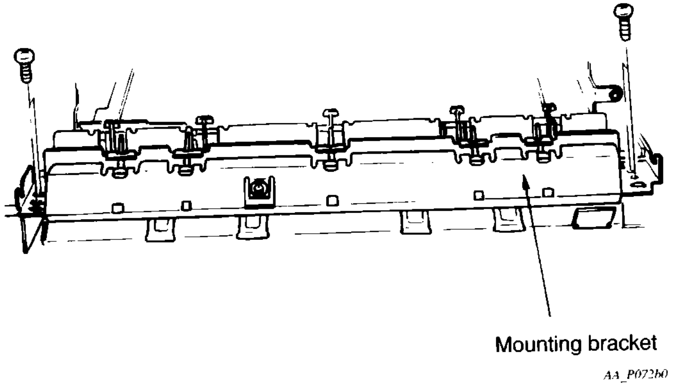

Mounting bracket
AA_P072B0

Figure 3-36-1

   - c) Remove the protection cover (1 screw).

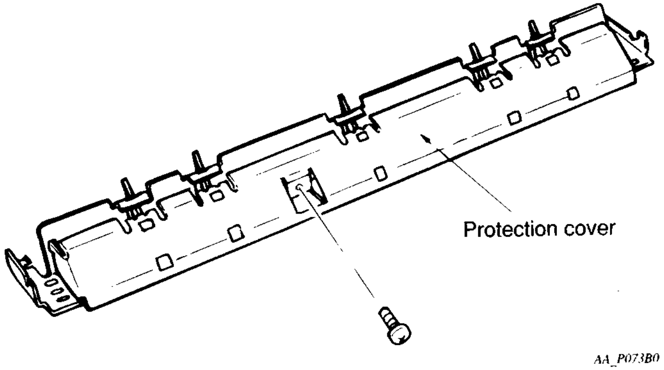

Protection cover
AA_P073B0

Figure 3-36-2

   - d) Remove the springs (5 pieces).
   - e) Remove the separation fingers (5 pieces).
   - f) Reassemble in the reverse order.

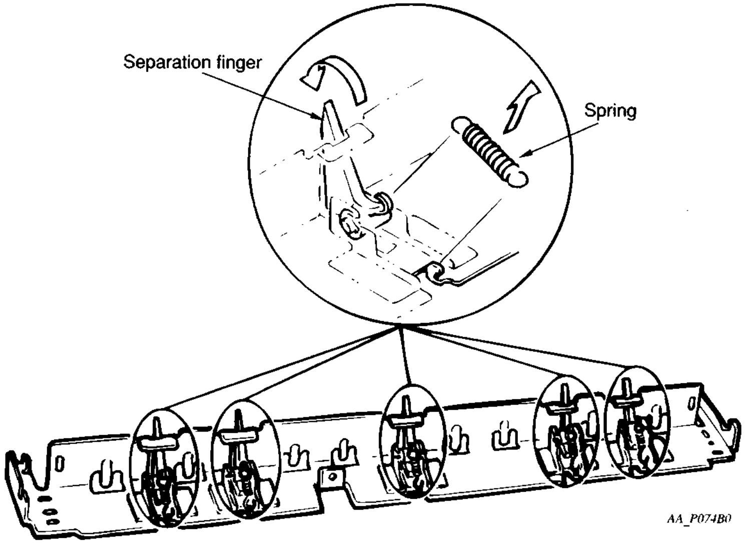

Separation finger
Spring
AA_P074B0

Figure 3-37-1

2) Removal of separation fingers (lower)
   - a) Open the paper exit door.
   - b) Remove the lower separation finger mounting bracket (2 screws).

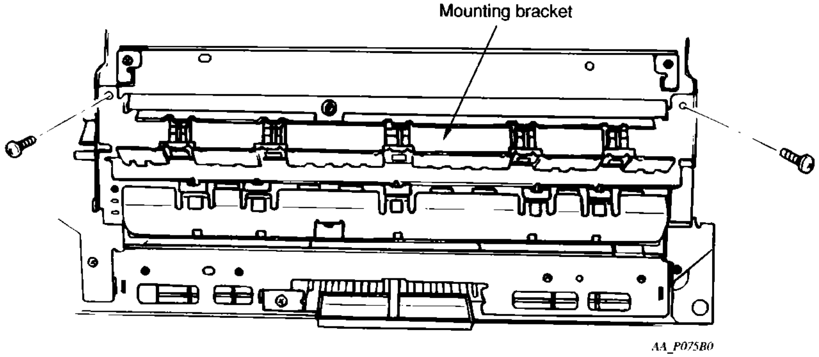

Mounting bracket
AA_P075B0

Figure 3-37-2

c) Remove the springs (5 pieces).
d) Remove the separation fingers (5 pieces).
e) Reassemble in the reverse order.

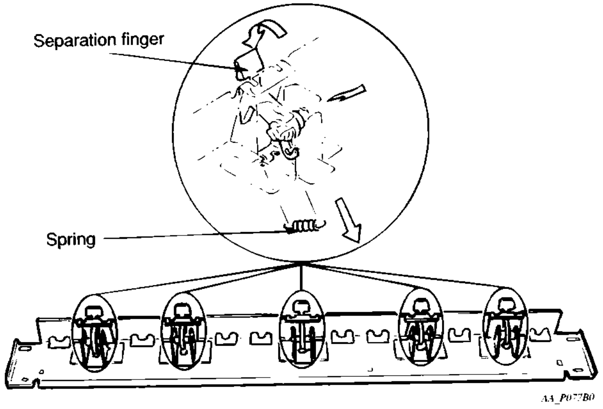

Separation finger
Spring
AA_P077B0

Figure 3-38-1

---

3) Removal of cleaning web
   a) Open the front cover.
   b) Open the paper exit door.
   c) Remove the paper exit assembly strap mounting screw (1 screw) and open the paper exit assembly fully.

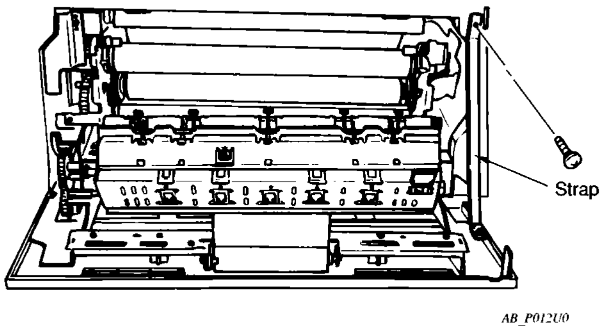

Strap
AB_P012U0

Figure 3-39-1

   d) Remove the cleaning web assembly (2 screws).

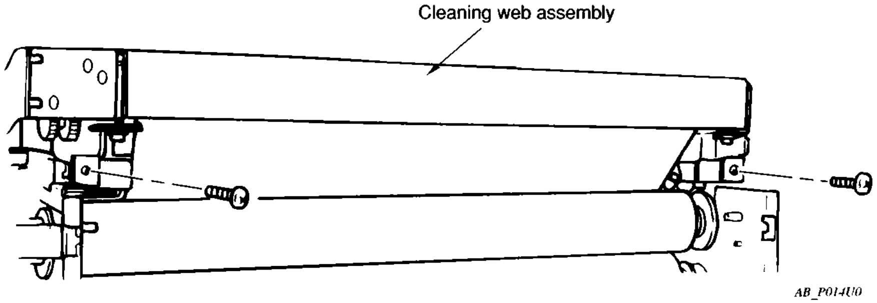

Cleaning web assembly
AB_P014U0

Figure 3-39-2

e) Remove the cleaning web mounting supports (1 screw each).
f) Remove the cleaning web.
g) Reassemble in the reverse order.

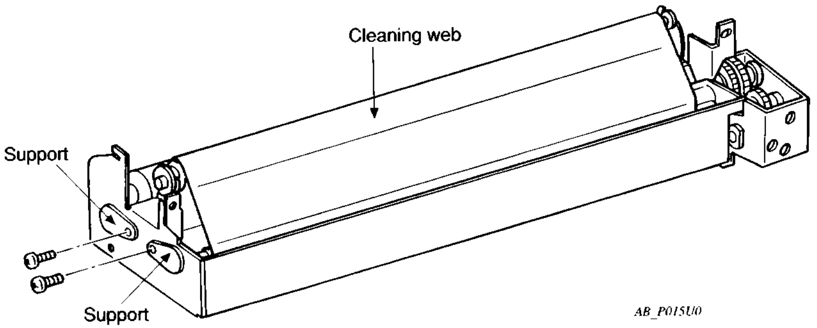

Cleaning web
Support
Support
AB_P015U0

Figure 3-40-1

4) Removal of fuser lamp, thermistor, heat roller and heat roller bushing
   a) Open the front cover.
   b) Open the paper exit door.
   c) Remove the left cover (5 screws).
   d) Remove the paper exit assembly strap mounting screw (1 screw) and open the paper exit assembly fully.

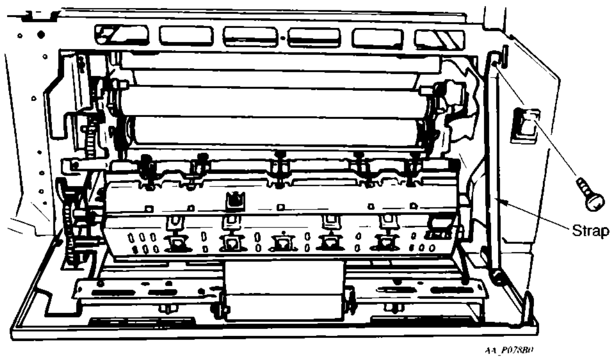

Strap
AA_P078B0

Figure 3-40-2

e) Remove the fuser manual paper feed knob (1 screw).
   Note: To remove the manual paper feed knob turn the screw clockwise.

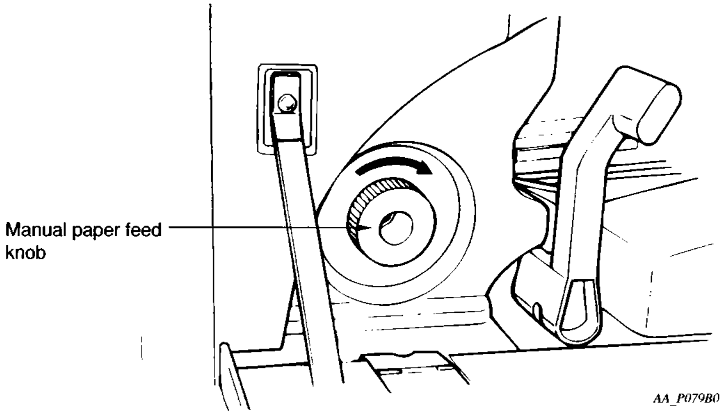

Manual paper feed knob
AA_P079B0

Figure 3-41-1

f) Remove the left cover (5 screws).
g) Remove the hinge on the paper exit side.
h) Remove the AC cover (2 screws).

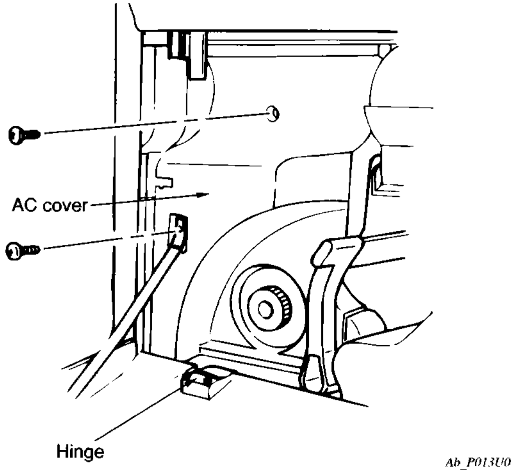

AC cover
Hinge
Ab_P013U0

Figure 3-41-2

i) Remove the fuser harness cover (1 screw).

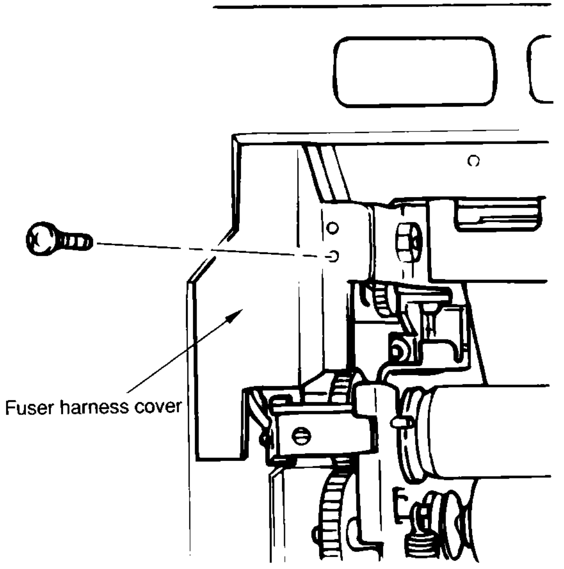

Fuser harness cover

Figure 3-42-1

j) Disconnect the thermistor and fuser lamp connectors.
k) Remove the fuser unit (2 screws).

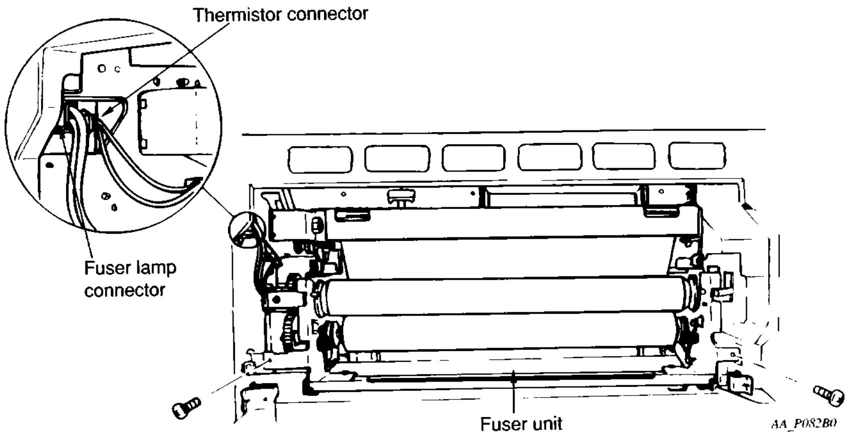

Thermistor connector
Fuser lamp connector
Fuser unit
AA_P082B0

Figure 3-42-2

l) Remove the fuser lamp terminal bracket spring (front).

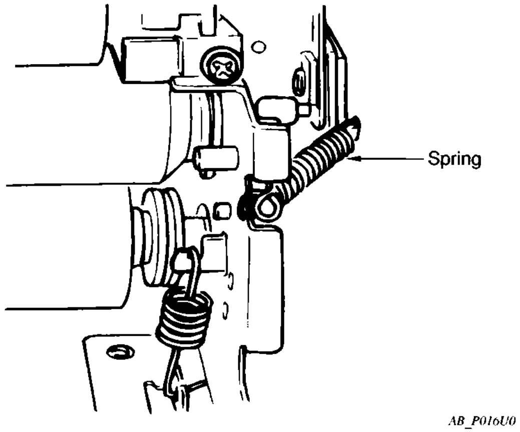

Spring
AB_P016U0

Figure 3-43-1

m) Open the fuser lamp terminal bracket (front) and remove the fuser lamp.

Note:
- Do not touch the glass portion of the lamp.
- When the lamp is installed, the rated voltage mark must be towards the rear.
- When installing the lamp, make sure it contacts the rear fuser lamp terminal.

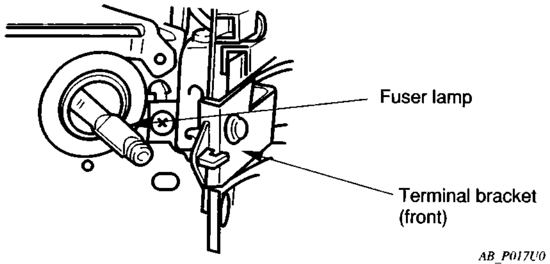

Fuser lamp
Terminal bracket (front)
AB_P017U0

Figure 3-43-2

n) Remove the thermistor.

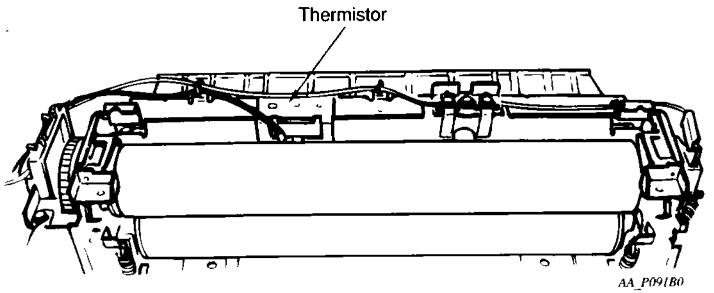

Thermistor
AA_P091B0

Figure 3-44-1

o) Remove the heat roller mounting brackets (front and rear) (1 screw each).

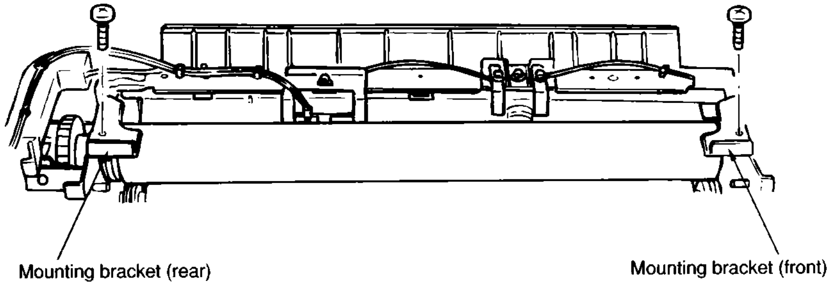

Mounting bracket (rear)
Mounting bracket (front)

Figure 3-44-2

p) Remove the heat roller assembly.
q) Remove the fuser drive gear, bearings and bushings from heat roller.
r) Reassemble in the reverse order.

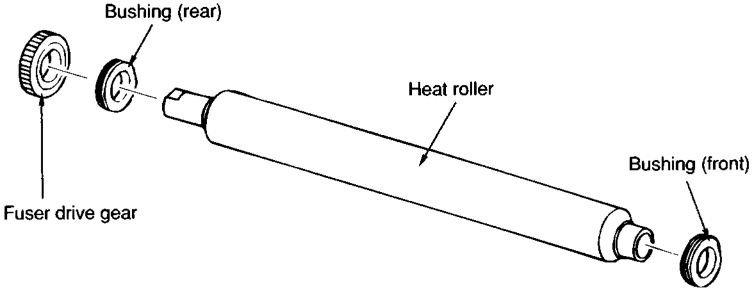

Bushing (rear)
Heat roller
Bushing (front)
Fuser drive gear

Figure 3-44-3

---

5) Removal of pressure roller
   a) Remove the heat roller assembly as described in step 4), steps a) to p).
   b) Remove the pressure springs (2 pieces).
   c) Remove the pressure roller and bearings.
   d) Reassemble in the reverse order.

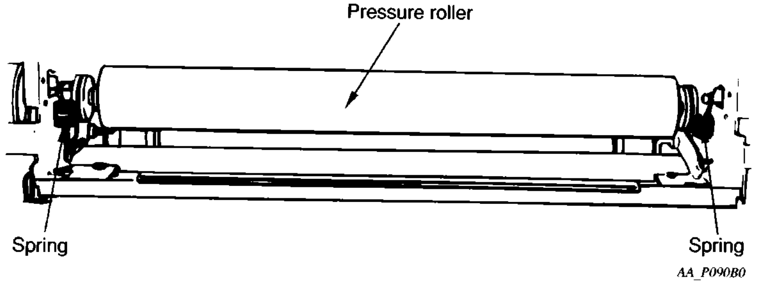

Pressure roller
Spring
Spring
AA_P090B0

Figure 3-45-1

5. Fuser unit adjustment

1) Pressure roller adjustment
   When installing the pressure roller, or when the heat and pressure roller contact is weak (poor fusing occurs), or when the heat and pressure roller contact is too strong (resulting in creased copies), adjust as follows.
   a) Open the paper exit section.
   b) Change the spring position (A), (B) or (C) as necessary.

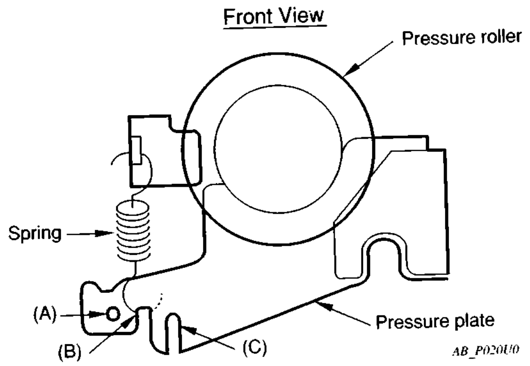

Front View
Pressure roller
Spring
(A)
(B)
(C)
Pressure plate
AB_P020U0

Figure 3-46-1

   c) Close the paper exit section.
   d) Open the platen cover.
   e) Press the "Print" key.
   f) When the paper (80 g/m^2) has entered the fuser section, turn the copier power switch OFF.
   g) Remove the paper. Measure the roller contact area on the paper. The contact area should be approx. $a=3.0\pm0.1$mm $b=3.5\pm0.2$mm

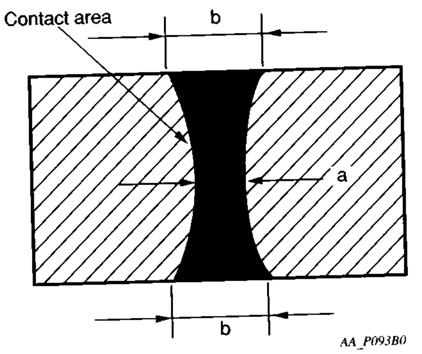

Contact area
b
a
b
AA_P093B0

Figure 3-46-2

   h) If adjustment is not correct, repeat steps a) to g).

3.7 Paper exit unit

1. Paper exit operation

After the image is developed, it is transferred to the copy paper, fused, and exits the copier or enters the duplex unit. It passes through the paper exit unit at this time.
(When optional paper exit unit (FA-UE10) is installed on FP-2080.)

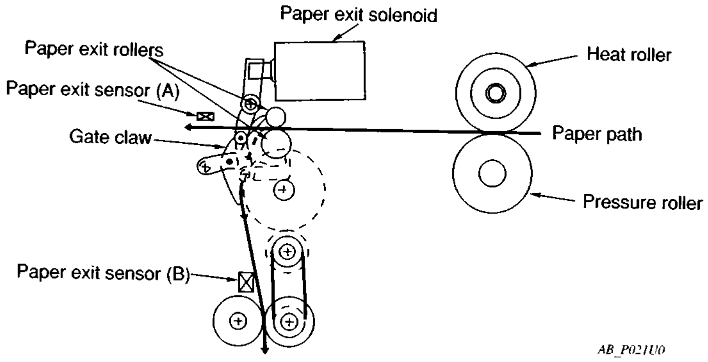
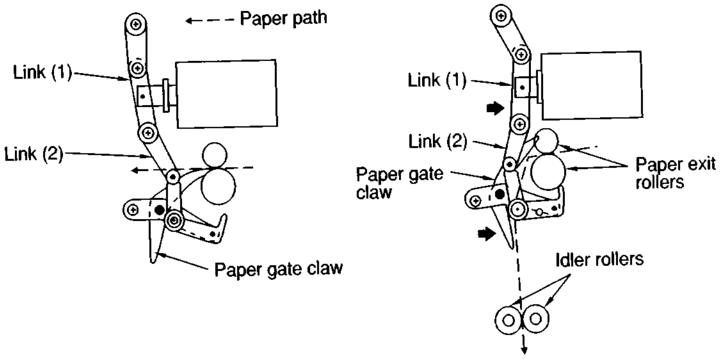

Paper exit solenoid
Paper exit rollers
Paper exit sensor (A)
Gate claw
Heat roller
Paper path
Pressure roller
Paper exit sensor (B)
AB_P021U0

Figure 3-47-1

1) During duplex or overlay copy mode, the duplex unit drive motor and the paper exit solenoid in the copier paper exit unit turn ON. By operation of the paper exit solenoid, links (1) and (2) operate in the arrow direction and the gate claw moves in the arrow direction. (Figure 3-48-1)
2) During duplex or overlay copy mode the CPU monitors sensor (B) instead of sensor (A) for jam detection.

* Paper exit solenoid and each sensor operation

	Paper exit solenoid		Paper exit sensor (A)		Paper exit sensor (B)	
Mode	Stack	Exit	Stack	Exit	Stack	Exit
Duplex	ON	OFF	No detection	Detection	Detection	No detection
Overlay	ON	OFF	No detection	Detection	Detection	No detection


Paper path
Link (1)
Link (2)
Paper gate claw
Link (1)
Link (2)
Paper gate claw
Paper exit rollers
Idler rollers
AA_P095B0

(Paper exit) (Paper stack)

Figure 3-48-1

3) Paper fed by the exit rollers through the gate claw will be fed in the duplex unit tray direction by idler rollers. After that, paper will be fed to the duplex unit paper feed roller by the paper transport belt.

3.8 Optical unit

1. Optical system operation

As Figure 3-49-1 shows, there is an optics home position sensor on the left side of the copier. The optical system is controlled by the sensor plate on the full-speed unit switching this optics home position sensor ON/OFF.

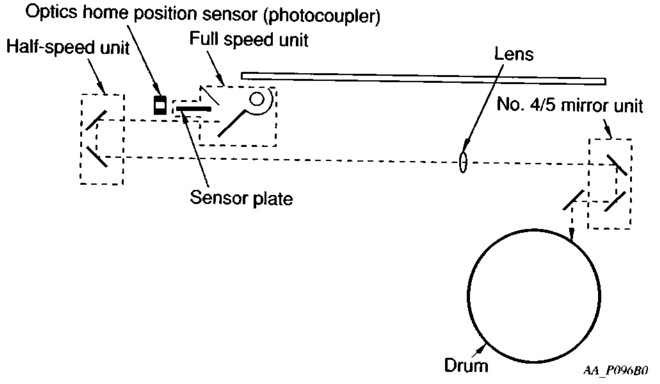

Optics home position sensor (photocoupler)
Half-speed unit
Full speed unit
Lens
No. 4/5 mirror unit
Sensor plate
Drum
AA_P096B0

Figure 3-49-1

1) When the power is turned ON, whether or not the optics home position sensor detects the sensor plate, the lamp unit scanner motor starts to turn and move the full-speed unit.
2) If the optics home position sensor detects the sensor plate, the full-speed unit moves in the opposite direction from the optics home position sensor until the optics home position sensor comes on, then it moves back towards the optics home position sensor. When the optics home position sensor goes off again, the full-speed unit stops. If the optics home position sensor does not detect the sensor plate when the power is first switched on, it moves towards the optics home position sensor and stops when the optics home position sensor goes off.

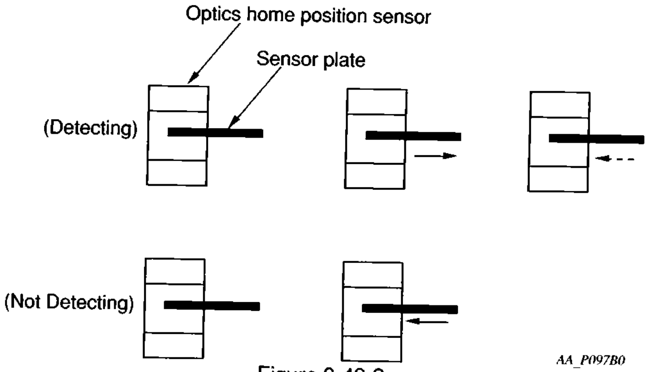

Optics home position sensor
Sensor plate
(Detecting)
(Not Detecting)
AA_P097B0

Figure 3-49-2

2. Auto original density control operation (Pre-scan)

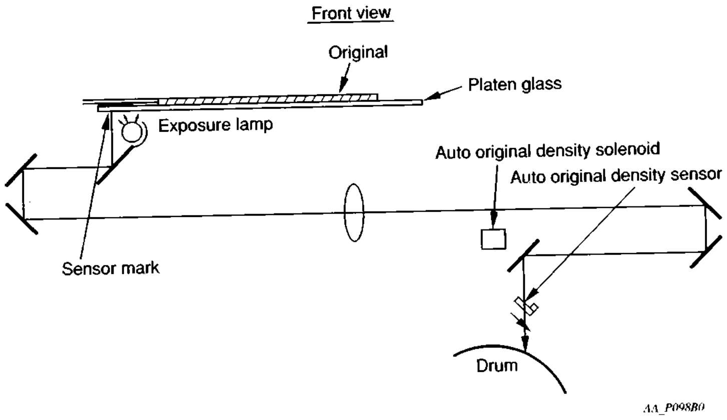


Figure 3-50-1

1) When the "Print" key is pressed, the exposure lamp lights, the fuser cooling fans (1) and (2) turn at full speed, the main motor turns, and the auto original density solenoid comes on to move the auto original density sensor to the center of the optical axis.
2) After a predetermined time, the lamp unit scanner motor turns forward and the full-speed unit and half-speed unit start the scan operation. They move approx. 5.9" (15cm) in the direction of the end position, then return.
3) During this return, the original density value read in the auto original density sensor is output to the CPU PCB. The CPU calculates the difference between this density and the density of the standard density mark and sets the exposure lamp voltage, grid bias voltage and developer bias voltage to match the density of the original.
4) When the optics home position sensor detects the full-speed unit, the lamp unit scanner motor stops, the auto original density sensor also moves to its home position, and the copy operation starts with the density level determined by the auto original density sensor operation.
5) When the full speed unit movement turns on the optics home position sensor, the registration timing starts. When the registration timing time has passed, the timing roller clutch comes on to feed the copy paper.
6) After the operating time specified for the size of paper being used lapses, the lamp unit scanner motor rotates in reverse the exposure lamp goes off, and the full-speed unit moves in the direction of the optics home position sensor.
7) The lamp unit scanner motor is a stepping motor. It is controlled by the pulses output from the CPU PCB.

3. Constant light volume measurement operation

1) When the fuser lamp is on for more than 30 seconds, the exposure lamp lights up the standard density mark and at the same time the auto original density solenoid turns on to move the auto original density sensor to the center of the optical axis. This operation raises the exposure lamp voltage until the auto density sensor output reaches the level set when the constant light volume was adjusted.
2) When the auto original density sensor output reaches this level, the exposure lamp goes out. The auto original density sensor output just before the lamp goes out is stored into the RAM and the exposure lamp voltage becomes the standard for copying. (F6-15 and F6-16)
3) The constant light volume measurement operation can be turned off using F5-24.

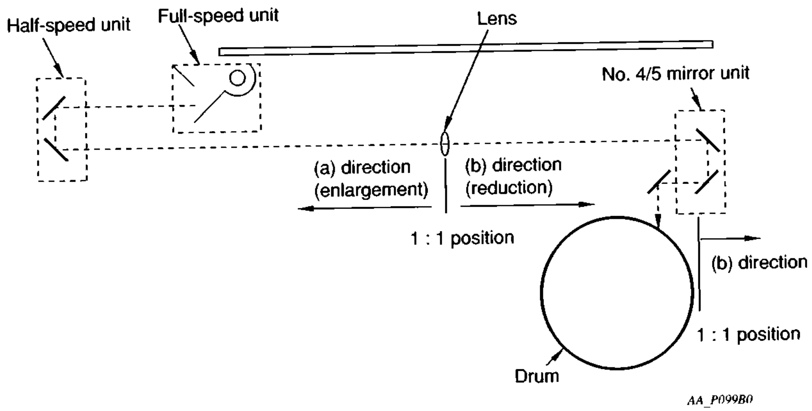
4. Reduction and Enlargement mechanism

The optical unit is composed of a through-lens, mirrors and exposure lamp, and uses a mirror movement system and a slit-exposure system. Reduction and enlargement are performed by the following four methods:

1) Magnification change ratio (Lens and Mirror movement system)
2) Variation of optical system scan speed.
3) Exposure lamp voltage change.
4) LED array (both-edges, blacking prevention LED, reduction mode, and narrow 1:1 only).

1) Magnification change ratio

The magnification ratio is changed when the copy ratio is set at other than 1:1 position when turning the power ON or when 60 seconds has passed after reduction/enlargement copying is completed. It also changes when the magnification ratio is changed at the control panel manually. (The copy ratio changes automatically after reduction/enlargement copying is performed only when the auto-reset mode is set.) The copy ratio change operation is performed by rotation of the lens stepping motor to move the lens, and the mirror stepping motor to move the mirror assembly (No. 4/5 mirror unit).


Half-speed unit
Full-speed unit
Lens
No. 4/5 mirror unit
(a) direction
(enlargement)
(b) direction
(reduction)
1 : 1 position
(b) direction
1 : 1 position
Drum
AA_P099B0

Raito	No. 4/5 Mirror unit moving distance
200%	(b) direction 47.3 mm
100%	0
50%	(b) direction 47.7 mm

Raito	Lens moving distance
200%	(a) direction 93.3 mm
100%	0
50%	(b) direction190.4 mm

Figure 3-52-1

In reduction when the optics are moved from the 1:1 position, the greater the distance of the original from the lens, the smaller the focused image, and the smaller the distance between the lens and the focused position (drum). In enlargement, the smaller the distance of the original from the lens, the larger the focused image, and the larger the distance between the lens and the focused position (drum).

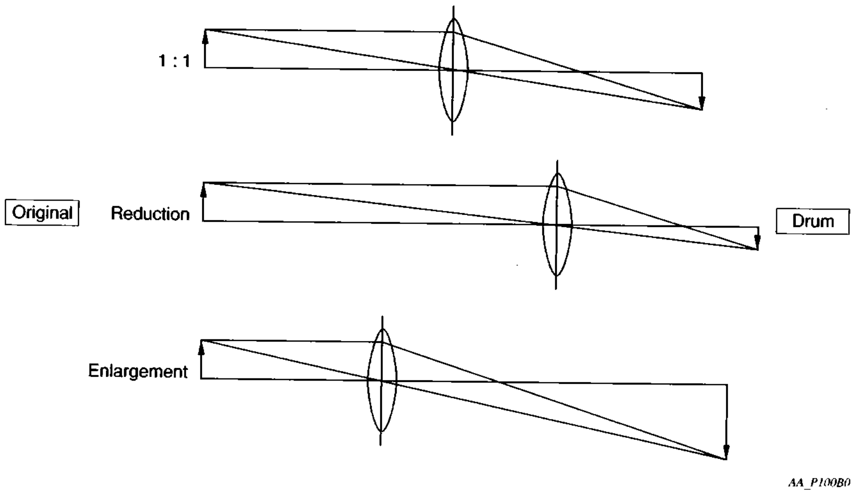

1 : 1
Original
Reduction
Drum
Enlargement
AA_P100B0

Figure 3-53-1

(Lens movement operation)

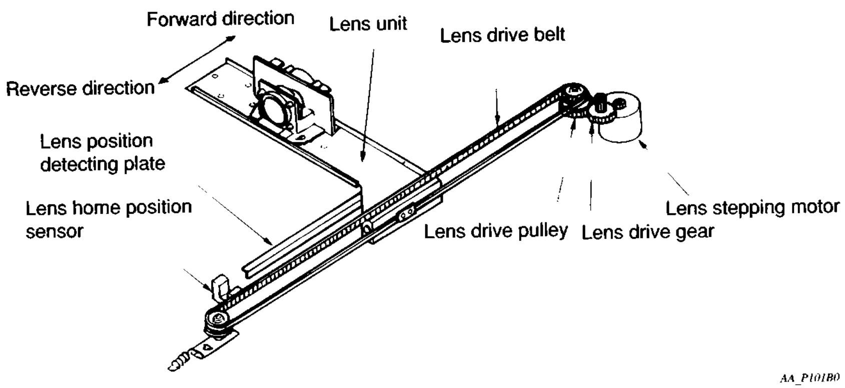

Forward direction
Lens unit
Lens drive belt
Reverse direction
Lens position detecting plate
Lens home position sensor
Lens stepping motor
Lens drive pulley
Lens drive gear
AA_P101B0

Figure 3-54-1

1) When the microprocessor outputs a rotation pulse that conforms to the copy ratio (0.2mm of movement per pulse), the lens stepping motor begins rotating. This rotation force is transmitted to the lens drive gear and lens drive pulley to move the lens unit to the stipulated position by the lens drive belt.
2) The stopping position of the lens unit that conforms to the copy ratio is detected by the lens position detecting plate and lens home position sensor, which are mounted on the lens unit.
3) To absorb gear backlash while the lens stepping motor is rotating in reverse, the motor is driven an extra 4mm (20 pulses) past the target value, then stops after being rotated 4mm in the forward direction.

(Mirror movement operation)

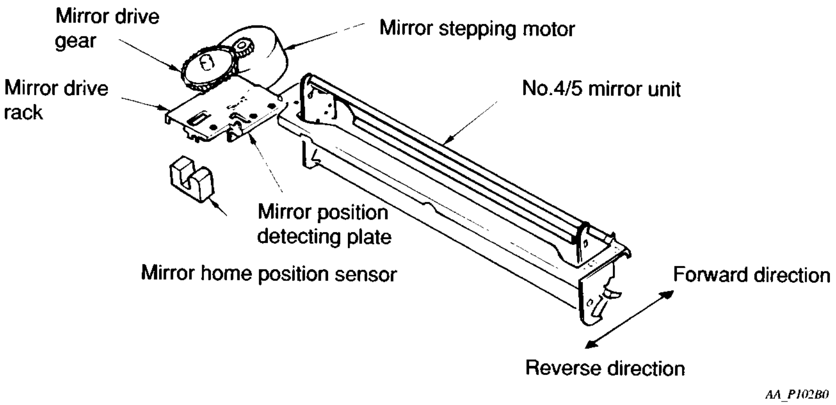

Mirror drive gear
Mirror stepping motor
Mirror drive rack
No.4/5 mirror unit
Mirror position detecting plate
Mirror home position sensor
Forward direction
Reverse direction
AA_P102B0

Figure 3-55-1

1) When the microprocessor outputs a rotation pulse that conforms to the copy ratio (0.1mm of movement per pulse), the mirror stepping motor begins rotating. This rotation force is transmitted to the mirror drive gear and mirror drive rack so the No. 4/5 mirror unit is moved to the stipulated position.
2) The stopping position of the mirror unit that conforms to the copy ratio is detected by the mirror position detecting plate and mirror home position sensor, which are mounted on the mirror unit.
3) To absorb gear backlash while the mirror stepping motor is being rotated in the reverse direction, the motor is driven an extra 4mm (40 pulses) past the target value, then stops after being rotated 4mm in the forward direction.

(Lens/Mirror home position control)

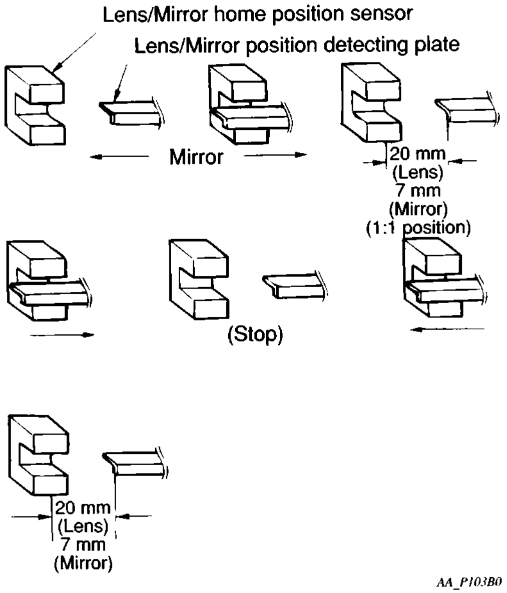


Figure 3-56-1

1) During the copy ratio operation, if the lens/mirror position detecting plate does not detect the lens/mirror home position sensor, the lens/mirror position detecting plate moves in the arrow direction to block the light from the lens/mirror home position sensor then slows down and stops in the stipulated position. After stopping, it again starts moving in the arrow direction so that the light from the lens/mirror home position sensor can pass, then the position to which the lens/mirror unit has travelled (20mm for the lens unit or 7mm for the No. 4/5 mirror unit) is regarded as the 1:1 position. Then the lens/mirror are moved the distance corresponding to the focus magnification ratio setting.
2) During the copy ratio operation, if the lens/mirror position detecting plate detects the lens/mirror home position sensor, the lens/mirror position detecting plate moves in the arrow direction to permit the light from the lens/mirror home position sensor to pass. Then the position to which the lens/mirror unit has travelled (20mm for the lens unit or 7mm for the No.4/5 mirror unit) is regarded as the 1:1 position.

2) **Variation of optical system scan speed**
The optical system scan speed is changed (between full-speed unit and half-speed unit) according to the copy ratio. This speed change is performed by dividing the frequency of the crystal oscillator on the CPU PCB.
    a) The scan speed will only alter the size of the image from lead to tail edge. The scan speed is increased for reduction and decreased for enlargement.
    FP-1680/FP-2080

Copy raito	Scan seed	Calculation
2.00	50/65 mm/sec	100/130÷2.00
1.73	58/75 mm/sec	100/130÷1.73
1.41	71/92 mm/sec	100/130÷1.41
1.22	82/107 mm/sec	100/130÷1.22
1.15	87/113 mm/sec	100/130÷1.15
1.00	100/130 mm/sec	100/130÷1.00
0.87	115/149 mm/sec	100/130÷0.87
0.82	122/159 mm/sec	100/130÷0.82
0.71	141/183 mm/sec	100/130÷0.71
0.58	172/224 mm/sec	100/130÷0.58
0.50	200/260 mm/sec	100/130÷0.50

Figure 3-57-1

3) **Exposure lamp voltage change**
- For enlargement copying, the amount of light on the drum decreases, the exposure is increased to compensate.
- For reduction copying, the amount of light on the drum increases, the exposure is decreased to compensate.

4) **LED array**
In reduction, the sections of the drum, not exposed by the lamp retain a charge, forming toner build up on both edges of the drum. The result is wasted toner and dirty copies. The proper number of LEDs light to discharge those areas of the drum. The number of LEDs that light changes according to the reduction ratio selected. The blacking prevention LEDs light when the optical system moves forward and the exposure lamp is OFF. The LED array does not light up when full size or enlargement copy is selected. All the blacking prevention lamps (LED array) are lit when the optical system moves in reverse.

5. Other operations

- A thermostat is incorporated in the optical system to prevent over temperature caused by the exposure lamp.
- In "Photo" mode the amount of exposure is automatically decreased. In "Photo" mode and "Document" mode, the amount of exposure can be changed with the copy density select keys.

6. Optical unit removal

1) Removal of exposure lamp unit

Caution: After the exposure lamp unit is replaced, the Image Density Standard adjustment must be performed. (Refer to 4.6 Image Density Standard adjustment on page 4-8)

a) Select the F8 mode.
b) Press the "Print" key "C00" will appear in the "Digit" display.
c) Press the "Print" key again, the optics unit will move to the right.
d) Turn the power off and unplug the copier
e) Remove the top cover right (2 screws), and remove the platen glass.
f) Remove exposure lamp lead wires (1 screw each).
g) Remove the exposure lamp unit (2 screws).
h) Reassemble in the reverse order.
i) Plug the copier in and turn on the power.
j) The optics unit will return to home position, and F1 will be indicated, press the "PAPER TRAY/PAPER SIZE", "Multi-copy" key "3" and "CLEAR/STOP" simultaneously to return to normal operation.

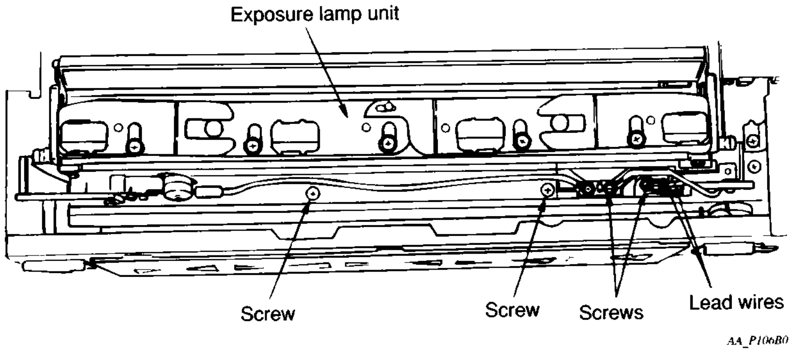


Figure 3-58-1

2) Removal of exposure lamp

Caution: After the exposure lamp is replaced, the Image Density Standard adjustment must be performed. (Refer to 4.6 Image Density Standard adjustment on page 4-8).

a) Remove the platen glass as described in step 1), steps a) to f).
b) Remove the front exposure lamp terminal (3 screws).
c) Remove the exposure lamp.
d) Reassemble in the reverse order.
e) Press the "CLEAR/STOP" key the optics unit will return to home position.

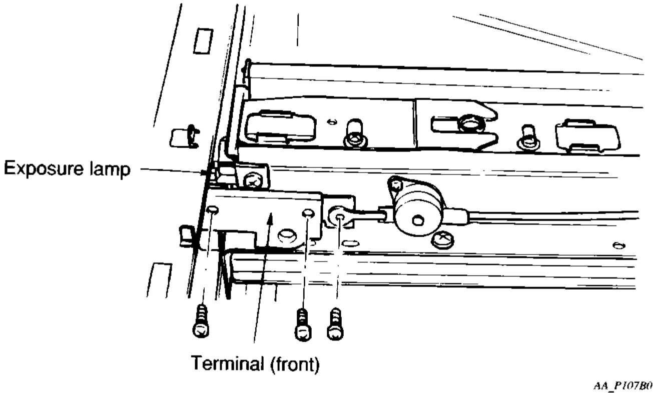


Figure 3-59-1

3) Removal and Installation of optics drive cable (from operator's side)

a) Turn the power off and unplug the copier from the wall outlet.
b) Remove the rear cover (5 screws).
c) Remove the left side cover (5 screws).
d) Remove the left side glass holder (3 screws).
e) Remove the top covers (right, left and rear) (2 screws each).
f) Remove the platen glass.
g) Remove the platen cover support (left) (1 screw).
h) Remove the platen cover support (right) (3 screws).
   Note: Idler gear spacer may come off with cover.
i) Remove control panel (2 screws).
j) Remove the platen glass support (left) (6 screws).
k) Remove the platen glass support (rear) (6 screws).
l) Remove the cable clamp from the full speed unit.
m) Hook the end of the cable with the tension spring to position (A).
n) Bring the cable to the rear, then wrap the cable around the groove of pulley B (CCW).
o) Bring the cable to the left, then wrap the cable around the lower groove of pulley C (CW).

p) Bring the cable to the right, then wrap the cable around the groove of pulley D (CCW).
q) Bring the cable to the left to the optics drive pulley. Wrap the cable 2 (two) turns clockwise from the bottom to the top of the pulley.
r) Bring the cable to the left, then wrap the cable around the groove of pulley E (CCW).
s) Bring the cable to the right, then wrap the cable around the upper groove of pulley C (CW).
t) Bring the cable to the left, then insert the cable lobe in the hole in the side frame (left).
u) Change the position of the tension spring from position (A) to position (F).
v) Install the cable clamp to the full-speed unit (1 screw).

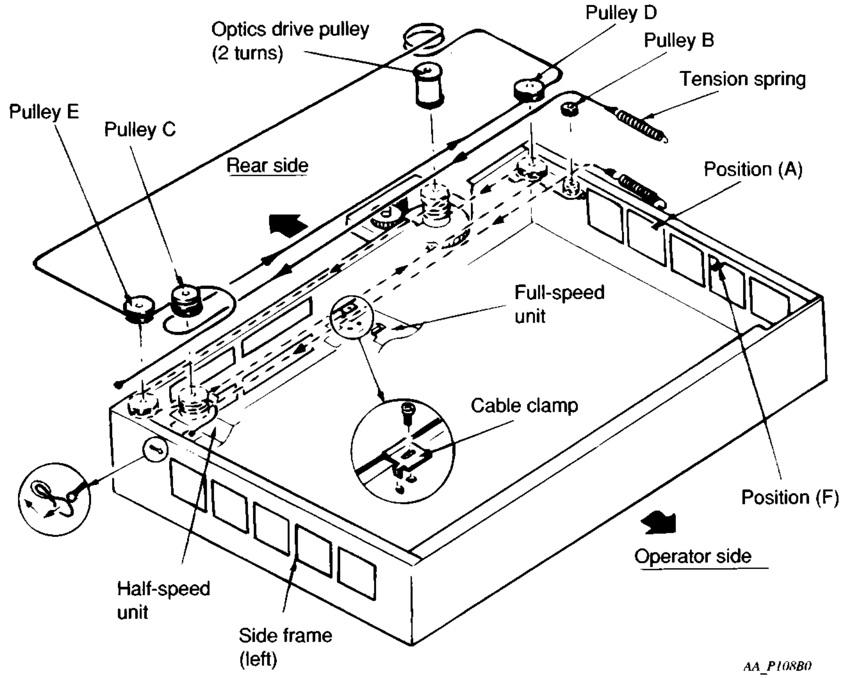

Optics drive pulley
(2 turns)
Pulley D
Pulley B
Tension spring
Pulley E
Pulley C
Rear side
Position (A)
Full-speed unit
Cable clamp
Position (F)
Operator side
Half-speed unit
Side frame (left)
AA_P108B0

Figure 3-60-1

7. Optical unit adjustment

1) Copy density difference adjustment
   This adjustment should only be performed when absolutely necessary. Perform this adjustment when there is a copy density difference. Before adjustment, confirm that there is no dirt or condensation on the lens or mirrors.
   a) Remove the top cover (right) (2 screws).
   b) Loosen the aperture plate mounting screws (5 screws).
   c) Adjust the aperture plate.
   Note: If the copy density is light, make the aperture opening narrower. If the copy density is dark, widen the aperture.

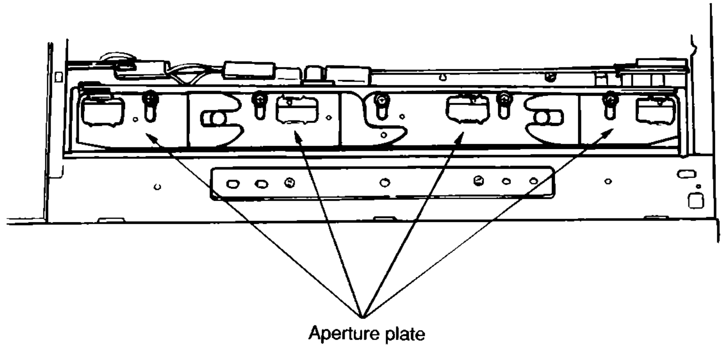

Aperture plate
AA_P109B0

Figure 3-61-1

2) Optical skew adjustment
   This adjustment should only be peformed when absolutely necessary. Perform this adjustment when there is copy skew. This adjustment should be previously checked at installation.
   a) Remove the control panel (2 screws).
   b) Remove the platen glass.
   c) Remove the blind plate.
   d) Loosen the mirror frame mounting screw (1 screw).
   e) Turn adjustment screw as shown in figure below.
      Note: If it is required to adjust the skew again, turn the adjustment screw in small increments very carefully and check for skew.

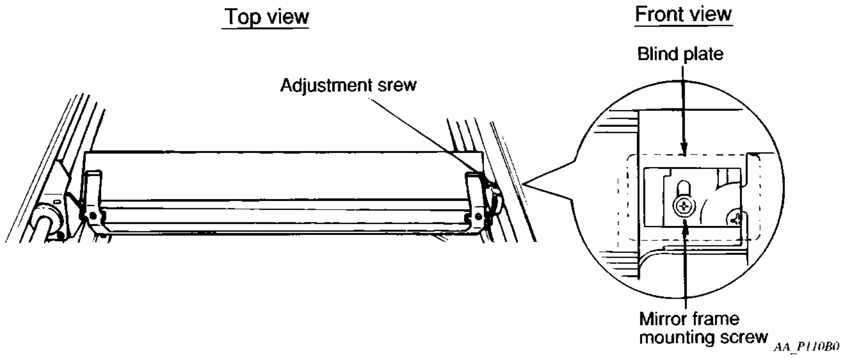
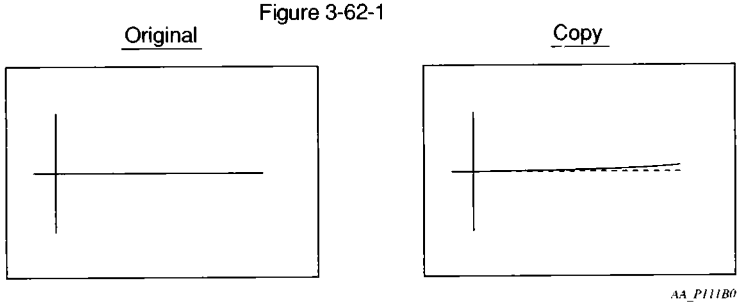
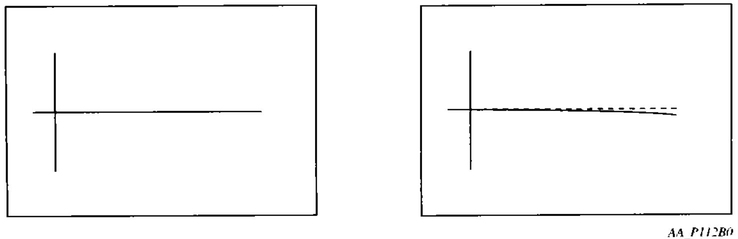

Top view
Front view
Blind plate
Adjustment srew
Mirror frame mounting screw
AA_P110B0

Figure 3-62-1


Original
Copy
AA_P111B0

- Turn the adjustment screw clockwise



- Turn the adjustment screw counterclockwise

Figure 3-62-2

3.9 Miscellaneous removal

1) Removal of ozone filter
   a) Open the front cover.
   b) Lower the paper transport unit.
   c) Disconnect fuser cooling fan motor and temperature/humidity sensor connectors.
   d) Remove the ozone filter assembly (1 screw).

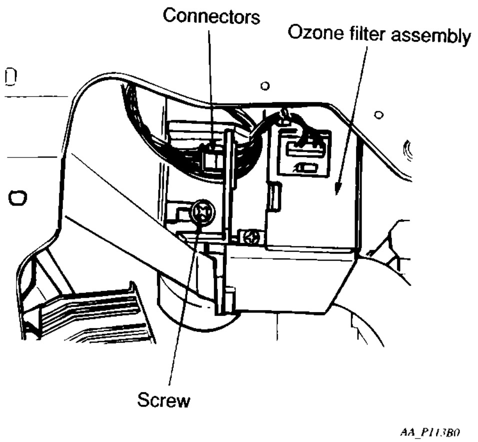

Connectors
Ozone filter assembly
Screw
AA_P113B0

Figure 3-63-1

   e) Remove the ozone filter.
   f) Reassemble in the reverse order.

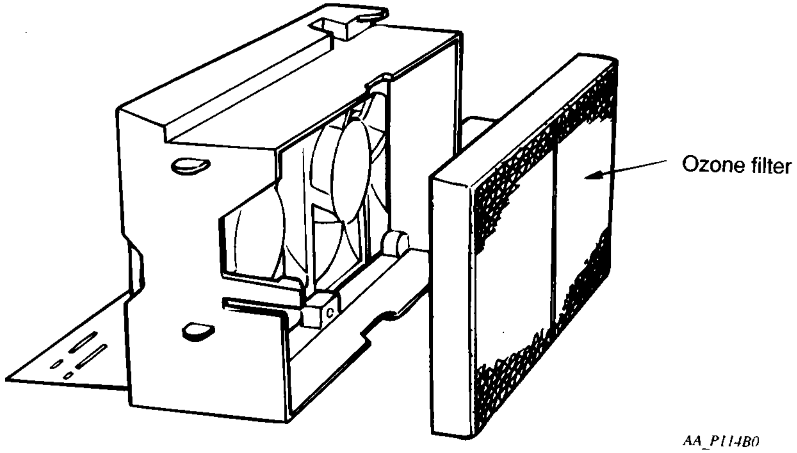

Ozone filter
AA_P114B0

Figure 3-63-2

2) Removal of dust protection filter for optics cooling fan
   a) Remove the rear cover (5 screws).
   b) Remove the dust protection filter for optics cooling fan (2 screws).
   c) Install new filter.
   d) Reassemble in the reverse order.

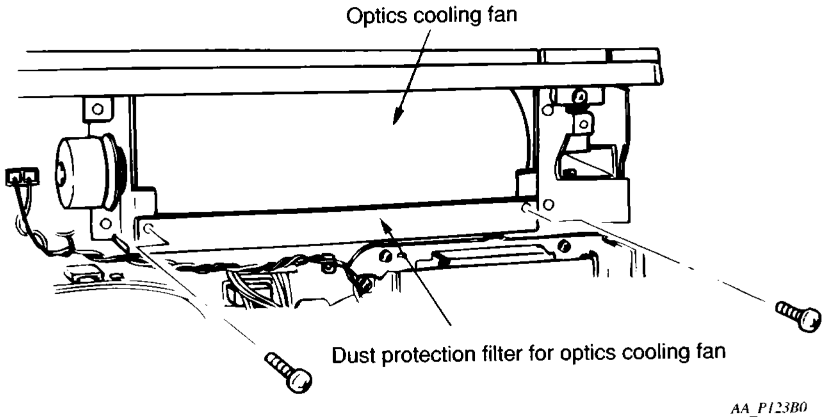

Optics cooling fan
Dust protection filter for optics cooling fan
AA_P123B0

Figure 3-64-1

3) Removal of dust protection filter (right)
   a) Remove the right cover (4 screws).
   b) Remove dust protection filter (right).
   c) Install new filter.
   d) Reassemble in the reverse order.

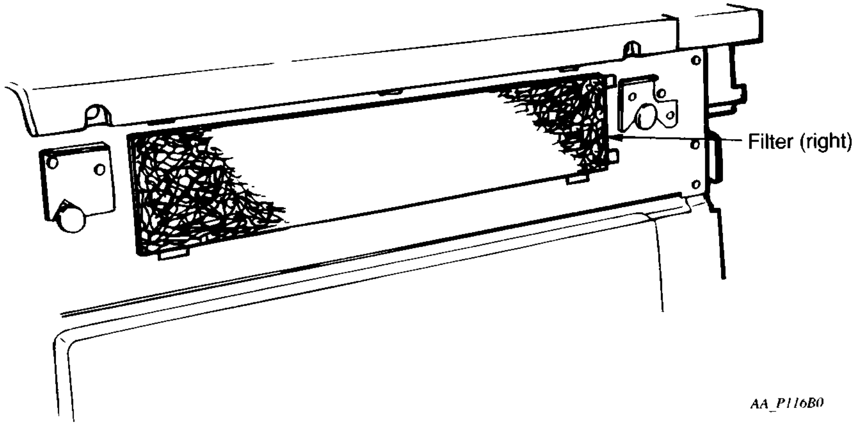

Filter (right)
AA_P116B0

Figure 3-64-2

4) Removal of dust protection filter (left)
   a) Remove the left cover (5 screws).
   b) Remove dust protection filter (left).
   c) Install new filter.
   d) Reassemble in the reverse order.

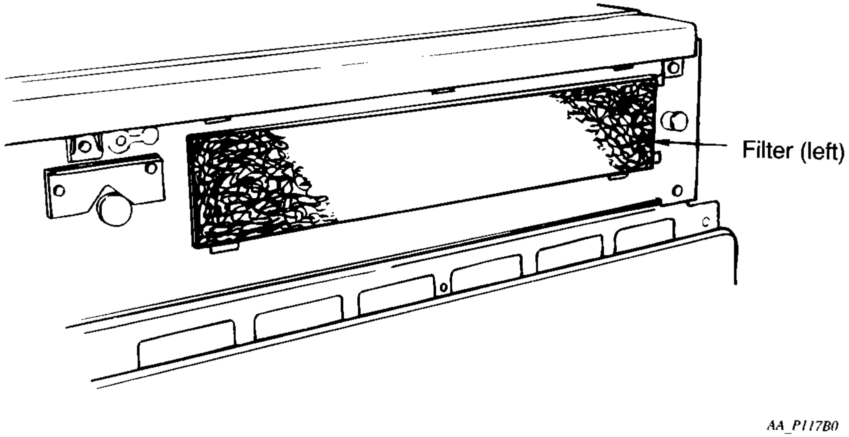

Filter (left)
AA_P117B0

Figure 3-65-1

5) Removal of the transport unit ozone filter
   a) Remove the rear cover (5 screws).
   b) Remove the transport unit ozone filter.
   c) Reasemble in the reverse order.

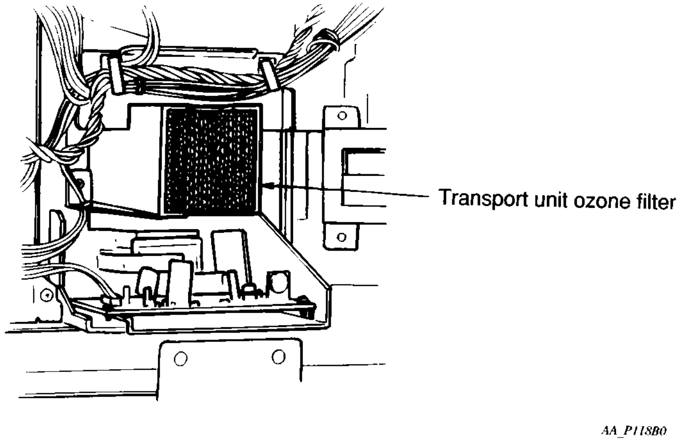

Transport unit ozone filter
AA_P118B0

Figure 3-65-2

6) Removal of discharge lamp
   a) Open the front cover.
   b) Lower the paper transport unit.
   c) Remove the waste toner bottle.
   d) Remove the drum unit (1 thumbscrew).
   e) Remove the discharge lamp assembly (1 screw).

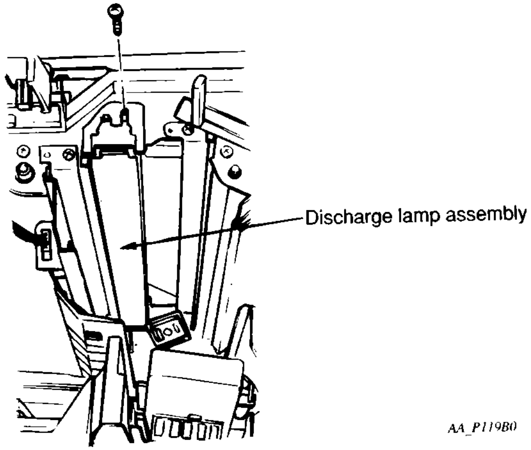

Discharge lamp assembly
AA_P119B0

Figure 3-66-1

   f) Remove the discharge lamp filter.
   g) Remove the discharge lamp (2 screws).
   h) Reassemble in the reverse order.

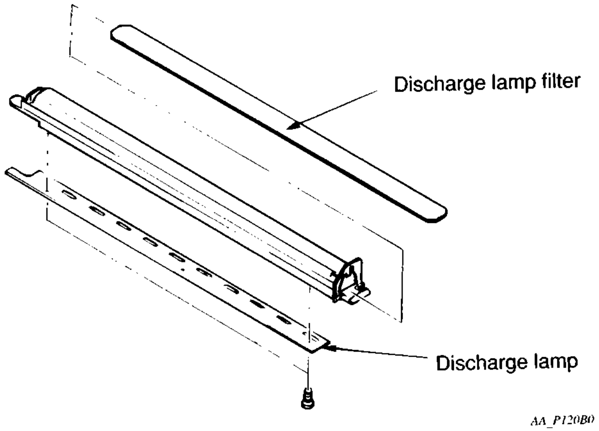
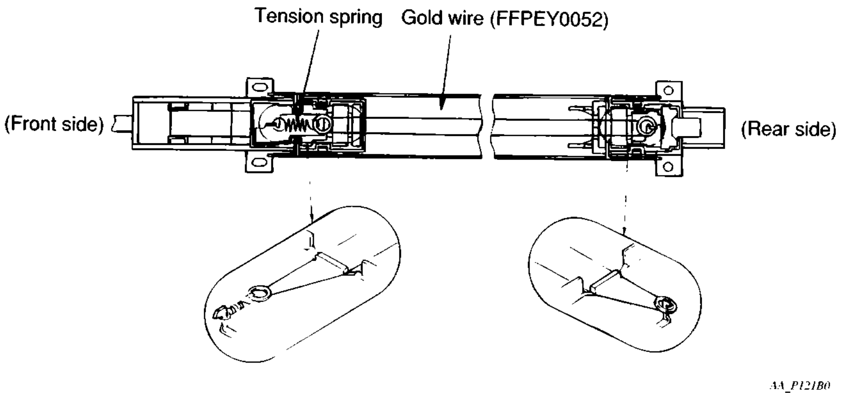

Discharge lamp filter
Discharge lamp
AA_P120B0

Figure 3-66-2

7) Replacement of corona wire
   When the corona wire is extermely dirty, loose, damaged, or broken, replacement is necessary.
   a) Remove the grid (for charge corona).
   b) Remove the front and rear covers.
   c) Remove the paper separation guides (for transfer/separation corona).
   d) Remove the old wire.
   e) Hook the wire ring to the rear hook pin (for charge corona).
   f) Hook the wire ring to the rear pin (for transfer/separation corona).
   g) Hook the end of the wire ring to the tension spring.
   h) Reassemble in reverse order.

(Charge corona)


Tension spring
Gold wire (FFPEY0052)
(Front side)
(Rear side)
AA_P121B0

(Transfer/Separation corona)

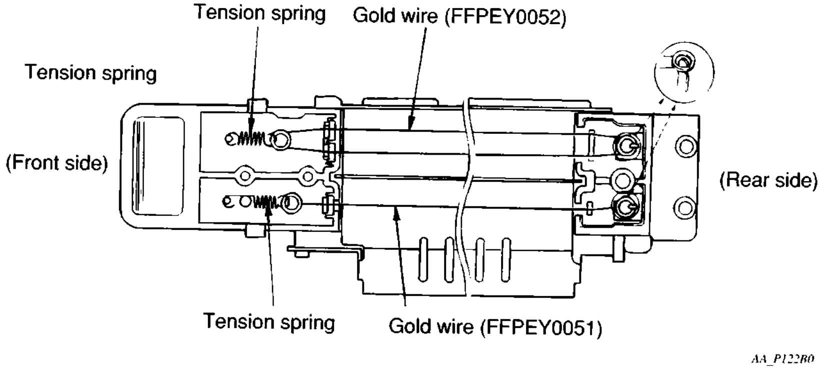

Tension spring
Gold wire (FFPEY0052)
Tension spring
(Front side)
(Rear side)
Tension spring
Gold wire (FFPEY0051)
AA_P122B0

Figure 3-67-1

Section IV
Preventive Maintenance

4.1 General

1. A preventive maintenance inspection of the copier should be performed every 60,000 copies. If the preventive maintenance inspection is correctly performed, high quality copies can be maintained for a long period of time, machine down time can be reduced, and the number of service calls minimized.
2. Refer to the attached chart for the schedule of replacements at 60,000 copy PM.
3. A high voltage hazard remains even when the machine is not operating. Always disconnect the machine from its power source (wall outlet) before servicing or disassembly.

4.2 Recommended tools

1. The following items are necessary to perform an effective, time efficient PM.
   a) Vacuum cleaner
   b) Blower brush
   c) Isopropyl alcohol
   d) Cleaning cotton
   e) Lint free wiper (Kim wipes)
   f) Cotton swabs
   g) Glass cleaner

4.3 Cleaning recommendations

1. It is generally recommended that during the course of each PM, the developer unit and fuser unit be removed for easy access to the general interior of the copier. Vacuuming of the copier is the first step.
2. Refer to the appropriate PM cycle on the maintenance chart (page 4-2, 4-5), where the repalcement and cleaning cycles are broken down by sub-assembly.
   Note: Use of IPA is strongly suggested, but it is only to be used when dry cleaning is ineffective. Excessive use of IPA can decrease the operating life of rubber components.
3. IPA should be used to clean the feed roller, timing roller, thermistor, corona, transport belt, and fuser pressure roller (only when required).
4. Cleaning with a blower brush is recommended for the corona units, optics, and general purpose.
5. Before servicing the developer unit, it is advisable to remove the drum and place in a dark safe place, away from typical drum hazards (Ex. Physical damage, direct intense light, chemical vapors, etc.).
6. Exercise caution in handling and cleaning the drum cleaning blade. Physical damage and finger marks will affect copy quality.

7. For individual removals, replacement, and adjustments refer to respective sub-assemblies information in section III.
   Caution: It is recommended that after using any cleaning agents and/or a drum refresher pad that the service technician place those items in a sealable plastic bag and discard them. It is also recommended that the service technician wash his hands after handling such items.

4.4 Maintenance chart (FP-1680)

Item / Service			Part number	Q'ty per unit	60 (× 1000)	120	180	240	300	360
*1	Sheet bypass paper feed roller		FFPMA0512	1	○	×	○	×	○	×
Paper feed unit	Cassette paper feed roller		FFPMA0503	1	○	×	○	×	○	×
	Double feed prevention roller		FFPMA0420	1	×	×	×	×	×	×
	Timing roller		FFPMA0444	1	○	○	○	○	○	○
	Paper cleaning sheet		FFPXQ83B50	1	○	○	○	○	○	○
	Paper transport roller		FFPLG12411	1	○	○	○	○	○	○
	Spring		FFPLR0217	1	Apply molykote U at 60,000 copies (*2)					
Developer unit	Charge corona wire		FFPEY0052	1		×		×		×
	Charge corona (with charge corona cleaner)		FFPXG60B501	1	○	○	○	○	○	×
	Developer	Black	FQ-ZA10	1	×	×	×	×	×	×
		Red	FQ-ZA11	1						
		Blue	FQ-ZA12	1						
	Drum		FQ-HA10	1	×	×	×	×	×	×
	Side seal	front	FFPHP06382	1		×		×		×
		rear	FFPHP06352	1						
	Spacer ring		FFPHQ00311	2		×		×		×
	Waste toner bottle		FFPQA00882	1	Replace at 10,000 copies.					
	Cleaning blade		FFPHK06331	1	×	×	×	×	×	×

○: Cleaning ×: Replacement ⊕: Lubrication

*1 Sheet bypass
*2 Part number of molykote U is FQ-SJ091.

Item / Service			Part number	Q'ty per unit	60 (× 1000)	120	180	240	300	360
*1	Paper transport belt		FFPML0019	3	○	○	○	○	○	○
Fuser unit	Separation finger	upper	FFPLK0230	5	○	×	○	×	○	×
		lower	FFPLK0231	5						
	Thermistor		FFPXT09950	1				×		
	Fuser lamp		IK24V085W67 or H24V085WN2A	1				×		
	Cleaning web		FFPKM0271	1	×		×		×	
	Heat roller		FFPMA0359	1				×		
	Pressure roller		FFPMA03582	1						×
	Heat roller bushing		FFPMQ0385	2				×		
	Paper guide		FFPKF09492	1	○	○	○	○	○	○
	Thermostat		FFPXT15900	1				○		
	Pressure roller bearing		FFPMQ0043	2	Apply molykote U to the bearing at 300,000 copies (*2) Replace at 600,000 copies.					
Optics	Exposure lamp		JK16V025WF67 or E16V025WN2A	1		×		×		×
	No. 1 mirror		FFPGC0153	1		○		○		○
	NO. 2 mirror		FFPGC0159	1						
	NO. 3 mirror		FFPGC0159	1						
	NO. 4 mirror		FFPGC0156	1						
	NO. 5 mirror		FFPGC0156	1						
	NO. 6 mirror		FFPGC0152	1						
	Lens		FFPGA0042	1		○		○		○
Main body	Ozone filter		FFPHJ00332	1	Replace at 60,000 copies. or at six months.					
	Dust protection filter (right and left)		FFPGB00201	2		×		×		×
	Dust protection filter for optics cooling fan		FFPXK27950	1	×	×	×	×	×	×
	Discharge lamp		PQ24V10W	1				×		
	Discharge lamp filter		FFPGB00171	1	○	○	○	○	○	○

*1 Paper transport unit
*2 Part number of molykote U is FQ-SJ091.

○: Cleaning ×: Replacement ⊕: Lubrication

Item		Part number	Q'ty per unit	60	120	180	240	300	360 (× 1000)
Main body	Transfer/Separation corona wire	FFPEY0051	1		×		×		×
		FFPEY0052	1						
	Transfer/Separation corona	FFPVL01A421	1	○	○	○	○	○	×
	Transport unit ozone filter	FFPHJ0032	1	×	×	×	×	×	×
	Slit glass	FFPXA63A42	1	○	○	○	○	○	○
	Copy density sensor	FFPWB0518	1	○	○	○	○	○	○
	LED array	FFPXA57900	1	○	○	○	○	○	○
	Platen glass	FFPGC0154	1	○	○	○	○	○	○
	Optics slide shaft	FFPLG0961	1		⊕		⊕		⊕
	Platen mat	FFPNN00333	1	○	○	○	○	○	○
	Waste toner bottle full sensor	EESX461P4	1		○		○		○

○: Cleaning ×: Lubricationepla ⊕: Lubrication

4.5 Maintenance chart (FP-2080)

Item			Part number	Q'ty per unit	60	120	180	240	300	360 (× 1000)
Multi-sheet bypass Paper feed unit	Sheet bypass paper transfer roller		FFPMA0377	1	○	×	○	×	○	×
	Sheet bypass double feed prevention roller		FFPMA03781	1	×	×	×	×	×	×
	Sheet bypass paper feed roller		FFPMA0159	1	○	×	○	×	○	×
	Spring		FFPLR0198	1	Apply molykote U at 60,000 copies (*2)					
Paper feed unit	Cassette paper feed roller		FFPMA0503	1	○	×	○	×	○	×
	Double feed prevention roller		FFPMA0420	1	×	×	×	×	×	×
	Timing roller		FFPMA0444	1	○	○	○	○	○	○
	Paper cleaning sheet		FFPXQ83B50	1	○	○	○	○	○	○
	Paper transport roller		FFPLG12411	1	○	○	○	○	○	○
	Spring		FFPLR0217	1	Apply molykote U at 60,000 copies (*2)					
Developer unit	Charge corona wire		FFPEY0052	1		×		×		×
	Charge corona (with charge corona cleaner)		FFPXG60B501	1	○	○	○	○	○	×
	Developer	Black	FQ-ZA20	1	×	×	×	×	×	×
		Red	FQ-ZA11	1						
		Blue	FQ-ZA12	1						
	Drum		FQ-HA10	1	×	×	×	×	×	×
	Side seal	front	FFPHP06382	1		×		×		×
		rear	FFPHP06352	1						
	Spacer ring		FFPHQ00311	2		×		×		×
	Waste toner bottle		FFPQA00882	1	Replace at 10,000 copies.					
	Cleaning blade		FFPHK06331	1	×	×	×	×	×	×
*1	Paper transport belt		FFPML0019	3	○	○	○	○	○	○
Fuser unit	Separation finger	upper	FFPLK0230	5	○	×	○	×	○	×
		lower	FFPLK0231	5						
	Thermistor		FFPXT09950	1				×		
	Fuser lamp		IK24V085W67 or H24V085WN2A	1				×		
	Cleaning web		FFPTM0252	1		×		×		×

*1 Sheet bypass
*2 Part number of molykote U is FQ-SJ091.

○: Cleaning ×: Replacement ⊕: Lubrication

Item		Part number	Q'ty per unit	(× 1000) 60	120	180	240	300	360
Fuser unit	Heat roller	FFPMA0359	1				×		
	Pressure roller	FFPMA03582	1						×
	Heat roller bushing	FFPMQ0385	2				×		
	Paper guide	FFPKF09492	1	○	○	○	○	○	○
	Thermostat	FFPXT15900	1				○		
	Pressure roller bearing	FFPMQ0043	2	Apply molykote U to the bearing at 300,000 copies (*2) Replace at 600,000 copies.					
Optics	Exposure lamp	JK16V025WF67 or E16V025WN2A	1		×		×		×
	No. 1 mirror	FFPGC0160	1		○		○		○
	N0. 2 mirror	FFPGC0161	1						
	N0. 3 mirror	FFPGC0161	1						
	N0. 4 mirror	FFPGC0162	1						
	N0. 5 mirror	FFPGC0162	1						
	N0. 6 mirror	FFPGC0163	1						
	Lens	FFPGA0042	1		○		○		○
Main body	Ozone filter	FFPHJ00332	1	Replace at 60,000 copies. or at six months.					
	Dust protection filter (right and left)	FFPGB00201	2		×		×		×
	Dust protection filter for optics cooling fan	FFPXK27950	1	×	×	×	×	×	×
	Discharge lamp	PQ24V10W	1				×		
	Discharge lamp filter	FFPGB00171	1	○	○	○	○	○	○
	Transfer/Separation corona wire	FFPEY0051	1		×		×		×
		FFPEY0052	1						
	Transfer/Separation corona	FFPVL01A421	1	○	○	○	○	○	×
	Transport unit ozone filter	FFPHJ0032	1	×	×	×	×	×	×
	Slit glass	FFPXA63A42	1	○	○	○	○	○	○
	Copy density sensor	FFPWB0518	1	○	○	○	○	○	○
	LED array	FFPXA57900	1	○	○	○	○	○	○

*1 Paper transport unit

*2 Part number of molykote U is FQ-SJ091.

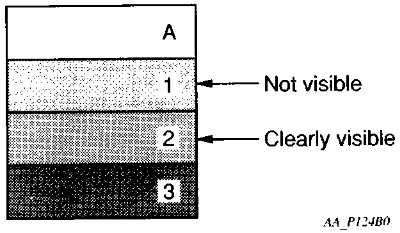
○: Cleaning ×: Replacement ⊕: Lubrication

Item		Part number	Q'ty per unit	(× 1000) 60	120	180	240	300	360
Main body	Platen glass	FFPGC0154	1	○	○	○	○	○	○
	Optics slide shaft	FFPLG0961	1		⊕		⊕		⊕
	Platen mat	FFPNN00333	1	○	○	○	○	○	○
	Waste toner bottle full sensor	EESX461P4	1		○		○		○

○: Cleaning ×: Replacement ⊕: Lubrication

4.6 Image Density Standard adjustment

1) Enter the F6 mode.
2) Set F6-11, 17, 19, and 40 to 0.
3) Change from F6 to F5 mode.
4) Set F5–25 to 0, then press "Print" key.
5) Turn the power off for approximately 1 sec., then turn the power on.
6) Enter the F2 mode and set the exposure to the center position in the document mode.
7) Make a copy of test chart #54 with gray scale (P/N FQ-SJ101).
   a) Gray scale 1 should not be visible.
   b) Gray scale 2 should be clearly visible.
   c) F6-39 adjustment:
      If the density is light, (–) direction = density darker.
      If the density is dark, (+) direction = density lighter.



8) Repeat steps 6 and 7 until the proper density is attained.
9) Enter the F5 mode and set F5–25 to 1, then press "Print" key. Turn the power off (1 sec.) and then on.
10) Enter F2 and make a copy of the test chart with gray scale, at center position in the DOCUMENT Mode.
11) If the gray scale and solids are acceptable, record the content of F6-39.

Note: If the variance in copy quality is very noticable after doing step 9, or further adjustment is required for customer acceptance, use the following:
F6-11 (up to +/–5).

Section V
Electrical

5.1 Glossary of electrical abbreviations

AC1	AC220-240V power supply (Live)
AC2	AC220-240V power supply (Neutral)
ACP	Lamp unit scanner motor drive signal (A)
ACPL	Lens stepping motor drive signal (A)
ACPM	Mirror stepping motor drive signal (A)
ADFRX	Automatic document feeder receiving signal
ADFTX	Automatic document feeder transmission signal
ADRX	Duplex unit receiving signal FP-2080
ADTX	Duplex unit transmission signal
AESN	Auto density sensor output signal
AESOL	Auto density solenoid ON/OFF signal
AP	Lamp unit scanner motor drive signal (A)
APL	Lens stepping motor drive signal (A)
APM	Mirror stepping motor drive signal (A)
BCNT	Bias voltage control signal
BCP	Lamp unit scanner motor drive signal (B)
BCPL	Lens stepping motor drive signal (B)
BCPM	Mirror stepping motor drive signal (B)
Bias	Bias voltage output
BMT1	Bottle motor terminal (1)
BMT2	Bottle motor terminal (2)
BMT3	Bottle motor terminal (3)
BOOK	Book data signal
BP	Lamp unit scanner motor drive signal (B)
BPL	Lens stepping motor drive signal (B)
BPM	Mirror stepping motor drive signal (B)
BPSN	Toner bottle position sensor output signal
CDCNT	Copy density sensor LED ON/OFF signal
CDSN	Copy density sensor output signal
CDSN2	Copy density sensor output signal (2)
CIA	Paper tray size detecting sensor signal (A)
CIB	Paper tray size detecting sensor signal (B)
CIC	Paper tray size detecting sensor signal (C)
CK	LED array transmission clock signal
COM	DC+24V power supply
COML	Lens stepping motor common
COMM	Mirror stepping motor common
CPCK	Control panel transmission clock signal
CPDATA	Control panel transmission data
CPESN	Cassette module (option) paper detecting sensor, Thousand sheet cassette (option) paper detecting sensor.
CPFCT1	System Console (upper stage) paper feed clutch ON/OFF signal
CPFCT2	System Console (middle stage) paper feed clutch ON/OFF signal

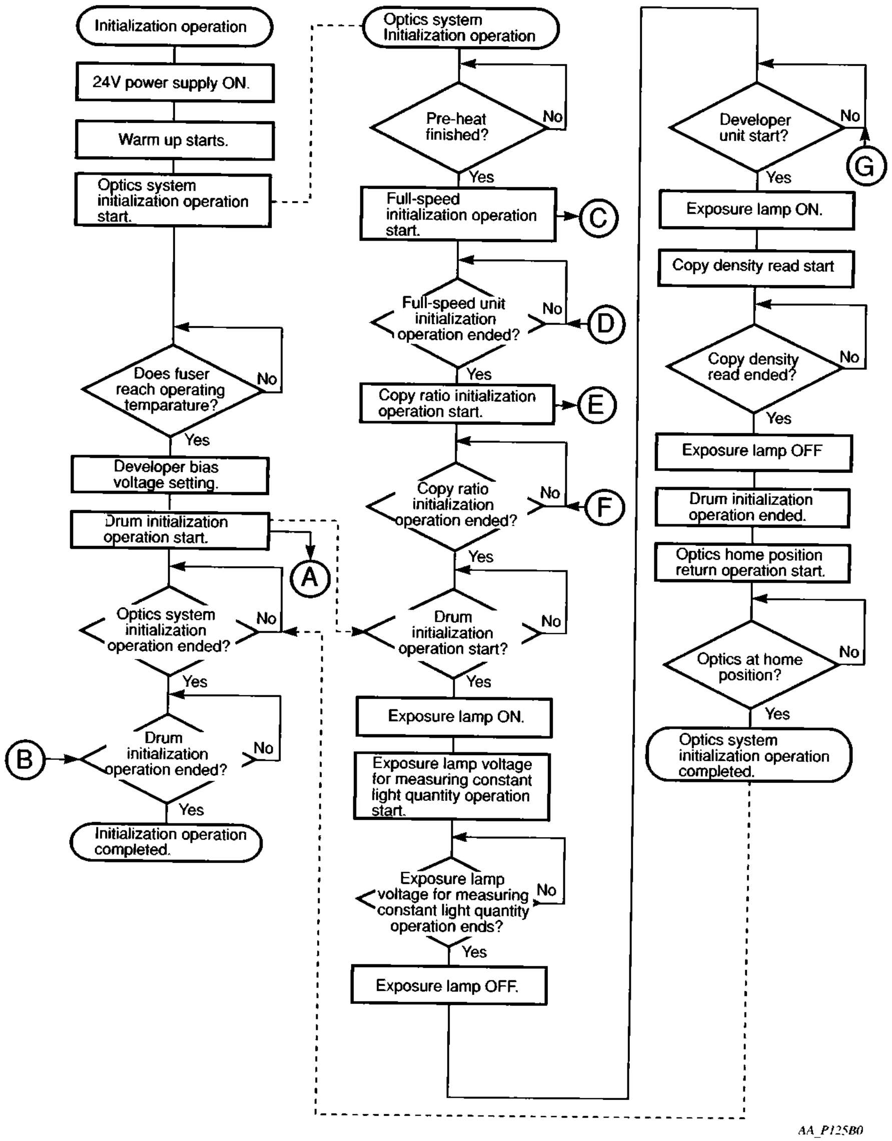
CPFCT3	System Console (lower stage) paper feed clutch ON/OFF signal	
CPLATCH	Control panel transmission data latch signal	
CPMT1	Key matrix data signal (1)	
CPMT2	Key matrix data signal (2)	
CPMT3	Key matrix data signal (3)	
CPMT4	Key matrix data signal (4)	
CPRES	Control panel reset signal	
CPRX	Control panel receiving signal	
CPTX	Control panel transmission signal	
CRRCNT	System Console timing roller clutch ON/OFF signal	
CRRSN	System Console registration sensor signal	
CSL1	System Console (upper stage) sensor select signal	
CSL2	System Console (middle stage) sensor select signal	
CSL3	System Console (lower stage) sensor select signal	
CT	Total counter ON/OFF signal	
CTED	Toner level (Color) detecting signal	
CUI	Color toner discrimination signal	
DATA1	LED array data signal	
DOSN	Copier door sensor signal	
ELP	Discharge lamp ON/OFF signal	
EXFLOK1	Fuser cooling fan motor (1) lock signal (1)	
EXFLOK2	Fuser cooling fan motor (2) lock signal (2)	
EXFSO1	Fuser cooling fan motor (1) ON/OFF signal (1)	
EXFSO2	Fuser cooling fan motor (2) ON/OFF signal (2)	
EXLP	Exposure lamp lighting	
FULP	Fuser lamp lighting	
GB	Grid voltage output	
GBCNT	Grid voltage control signal	
GND	Ground	
GNDO	Ground	
GNDT	Ground	
HFCR	Sheet bypass paper feed clutch ON/OFF signal (FP-2080)	
HFSOL	Sheet bypass solenoid ON/OFF signal	
HPESN	Sheet bypass paper detecting sensor ON/OFF signal	
HPS1	Sheet bypass paper size detecting sensor signal (1)	FP-2080
HPS2	Sheet bypass paper size detecting sensor signal (2)	
HPSL	Sheet bypass size detecting sensor signal	
HPSN	Optics home position sensor ON/OFF signal	
HTTR	Fuser lamp ON/OFF signal	
HUMS	Temperature/Humidity sensor input signal (FP-2080)	
HVCNT	Bias voltage ON/OFF signal	
HVCNT1	High voltage power supply (1) unit ON/OFF signal	
HVCNT2	High voltage power supply (2) unit ON/OFF signal	
HVLK1	Self-diagnostic input signal for high voltage leak (1)	
HVLK2	Self-diagnostic input signal for high voltage leak (2)	
IADFRX	Automatic document feeder reverse receiving signal	
IADFTX	Automatic document feeder reverse transmission signal	
IADRX	Duplex unit reverse receiving signal	FP-2080
IADTX	Duplex unit reverse transmission signal	
IRMRX	Remote diagnostic reverse receiving signal	
IRMTX	Remote diagnostic reverse transmission signal	
ISTRX	Sorter reverse receiving signal	FP-2080
ISTTX	Sorter reverse transmission signal	

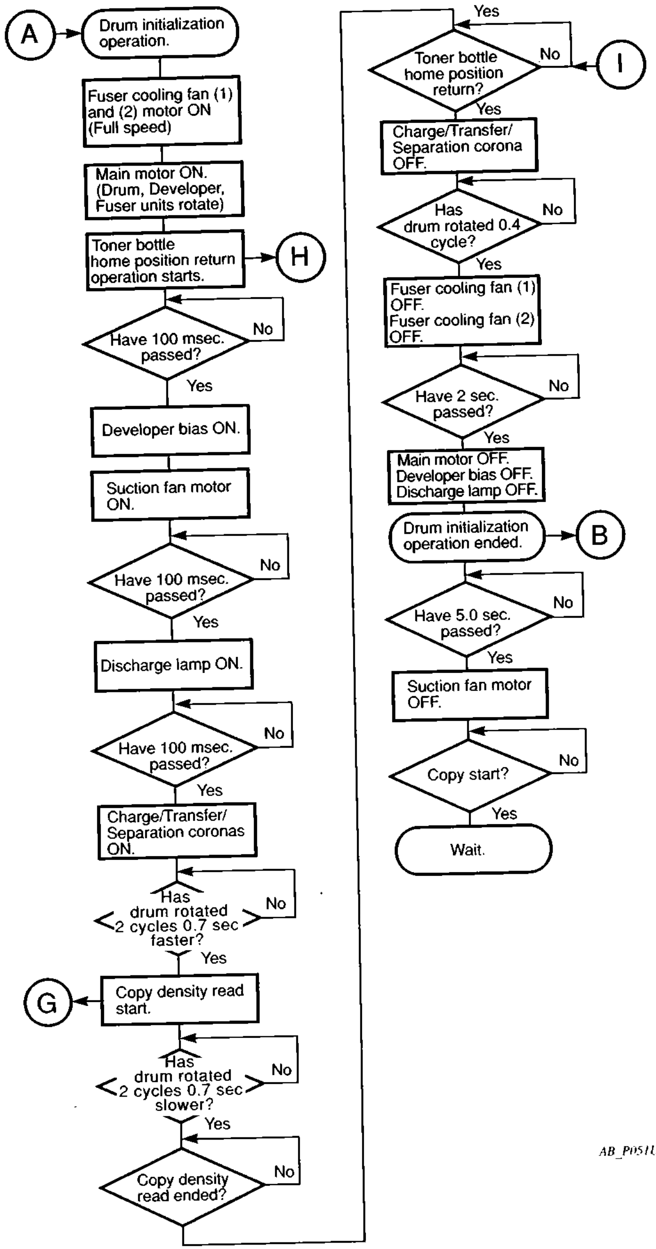
KCS	Key counter detecting signal	
KCT	Key counter ON/OFF signal	
LATCH	LED array data latch signal	
LCFRCT	Thousand sheet paper tray (optional) level motor down/up signal	
LFB1	Voltage feedback (1) for exposure lamp	
LFB2	Voltage feedback (2) for exposure lamp	
LHPSN	Lens home position sensor ON/OFF signal	
LPFM	Optics cooling fan motor ON/OFF signal	
LPTR	Exposure lamp ON/OFF signal	
MHPSN	Mirror home position sensor ON/OFF signal	
MM0	Main motor FG signal	
MM1	Main motor drive power	
MM2	Main motor drive voltage	
OVLY	Overlay data signal	
PESN	Paper detecting sensor signal	
PFCR	Copier paper feed roller clutch ON/OFF signal	
PFMCNT	Paper feed motor (System Console) ON/OFF signal	
PFMLCK	Paper feed motor (System Console) lock signal	
PFOSN	Paper exit sensor ON/OFF signal PGND	
PGND	Power ground	
PLCNT	LED lighting signal	
PLMCT1	System Console (upper stage) level motor ON/OFF signal	
PLMCT2	System Console (middle stage) level motor ON/OFF signal	
PLMCT3	System Console (lower stage) level motor ON/OFF signal	
PLSN	Optional paper tray level sensor signal	
POSN	Paper feed door sensor signal	
PSSW1	Optional paper tray paper size detecting sensor select signal (1)	
PSSW2	Optional paper tray paper size detecting sensor select signal (2)	
QDOSN	Paper feed door sensor (System Console) signal	
RMRX	Remote diagnostic receiving signal	
RMTX	Remote diagnostic transmission signal	
RRCR	Timing roller clutch ON/OFF signal	
RRSN	Timing roller sensor ON/OFF signal	
SC	Shield current feed back terminal	
SCFM	Suction fan motor ON/OFF signal	
SL	Copier paper tray size detecting sensor select signal	
SPSN	Copier paper pass sensor signal	
SRCR	Paper feed transport roller clutch ON/OFF signal (FP-2080)	
STBHSN	Sorter bin home position sensor signal	
STBSN	Sorter cam sensor signal	
STID	Sorter discrimination signal	
STMCNT	Sorter bin motor ON/OFF signal	
STMMCNT	Sorter paper feed motor ON/OFF signal	
STMRCNT	Sorter bin motor down/up signal	
STOSN	Sorter detectingand interlock detecting signal	
STPDSN	Sorter paper pass sensor signal	
STPL	Staple data signal	FP-2080
STRX	Sorter receiving signal	
STTX	Sorter transmission signal	

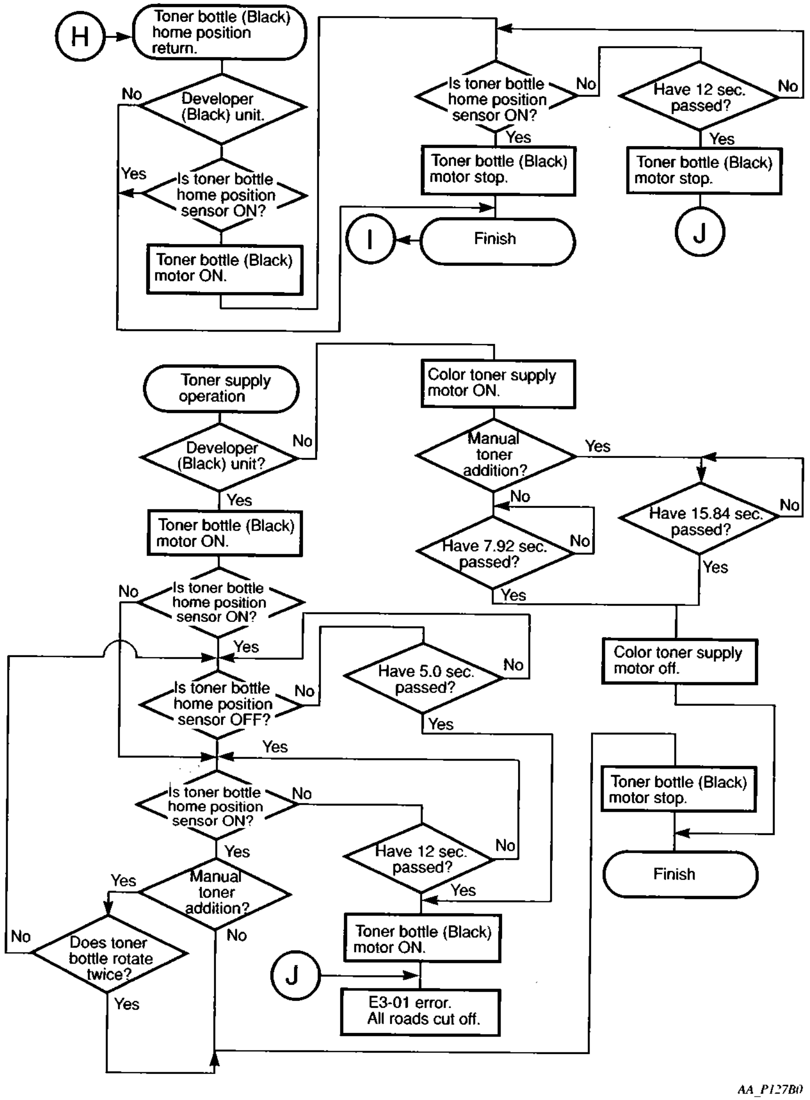
TDCNT	Toner density gain control signal
TDSN	Toner density sensor output signal
TED	Toner level detecting signal
TFSN	Waste toner bottle full sensor ON/OFF signal
TH1	Fuser thermistor terminal (1)
TH2	Fuser thermistor terminal (2)
THD	Temperature sensor input signal (FP-2080)
USSW1	Optional cassette module discrimination signal (1)
USSW2	Optional cassette module discrimination signal (2)
VCNT	DC+24V ON/OFF signal
VL	DC+5V power supply
VO	DC+10V power supply
VP	DC+24V power supply
VPAS	DC+24V power supply (CPU input)
WBSOL	Cleaning web solenoid ON/OFF signal
ZCRS	Zero cross signal

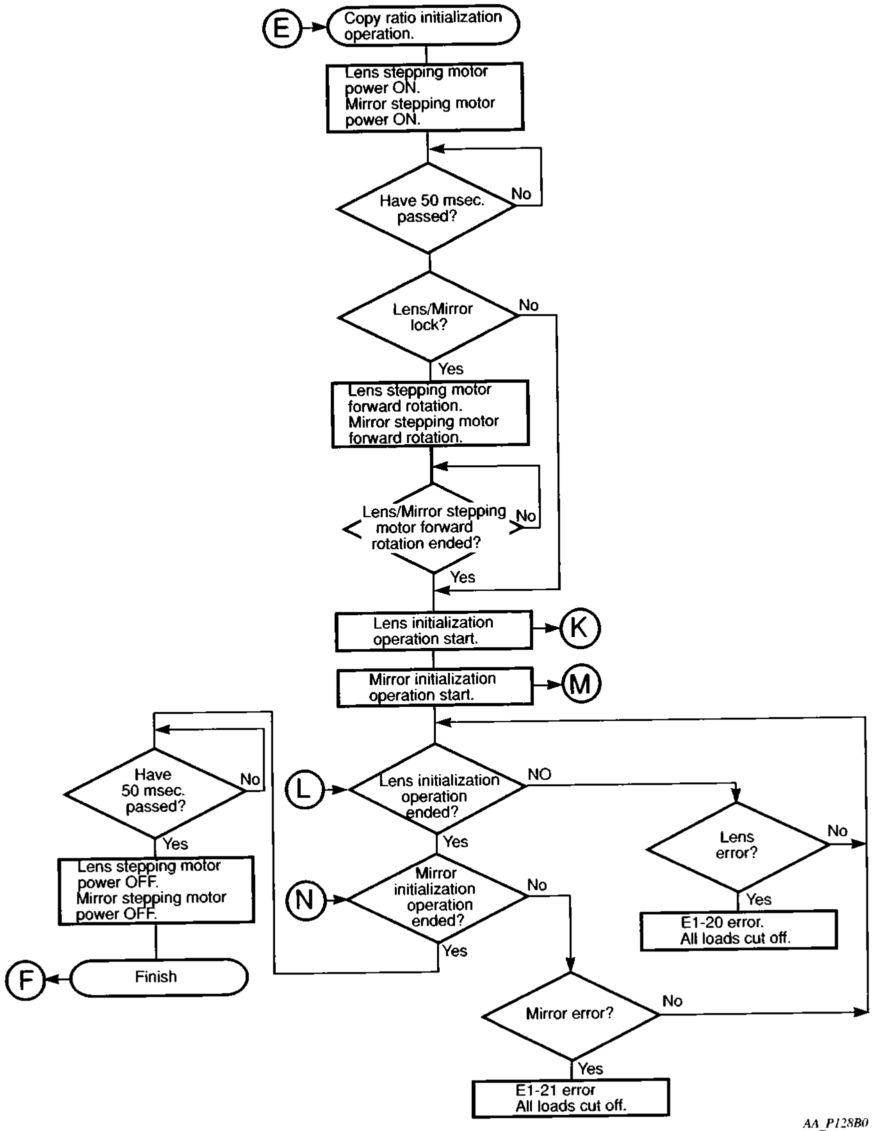
5.2 General flow chart

1. Initialization operation

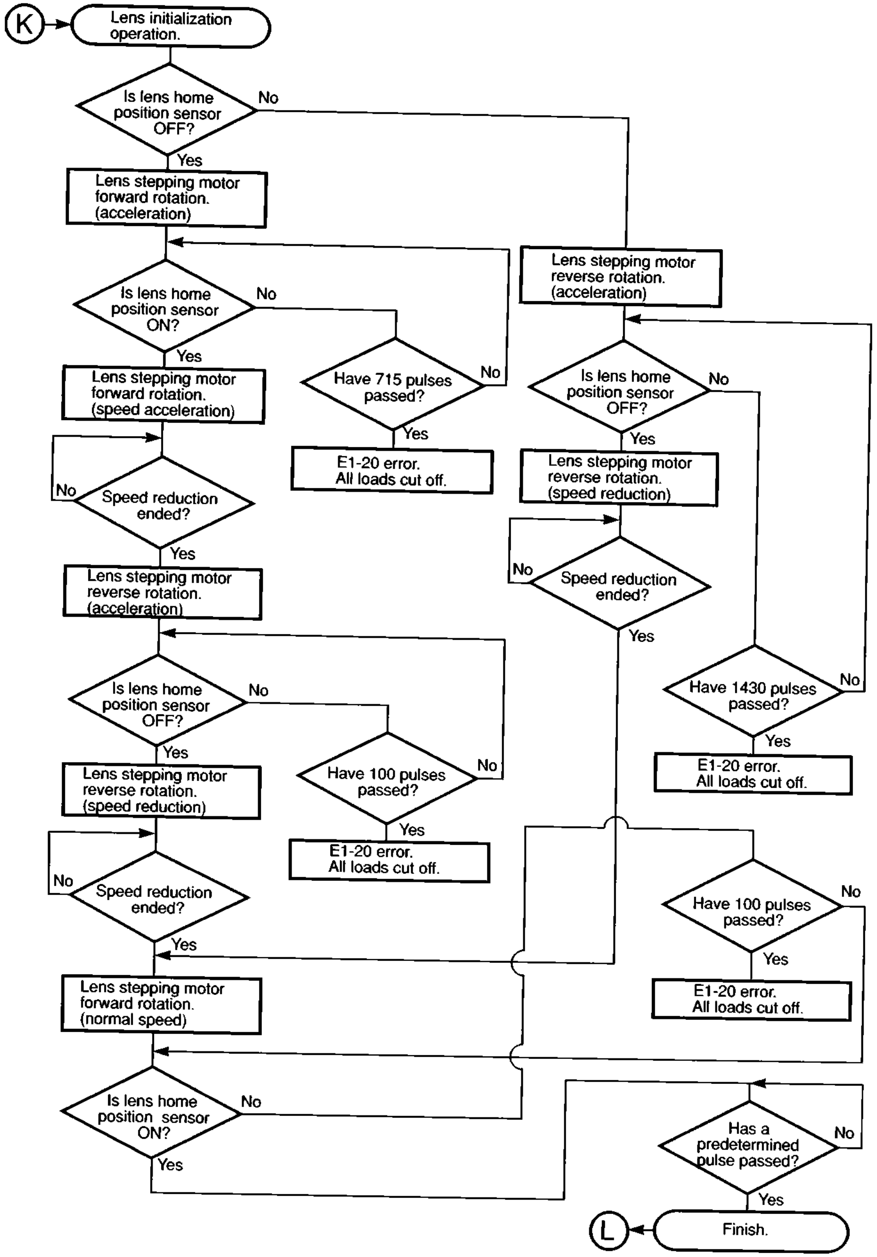

Initialization operation
24V power supply ON.
Warm up starts.
Optics system initialization operation start.
Does fuser reach operating temparature?
No
Yes
Developer bias voltage setting.
Drum initialization operation start.
A
Optics system initialization operation ended?
No
Yes
B
Drum initialization operation ended?
No
Yes
Initialization operation completed.
Optics system Initialization operation
Pre-heat finished?
No
Yes
Full-speed initialization operation start.
C
Full-speed unit initialization operation ended?
No
Yes
D
Copy ratio initialization operation start.
E
Copy ratio initialization operation ended?
No
Yes
F
Drum initialization operation start?
No
Yes
Exposure lamp ON.
Exposure lamp voltage for measuring constant light quantity operation start.
Exposure lamp voltage for measuring constant light quantity operation ends?
No
Yes
Exposure lamp OFF.
Developer unit start?
No
Yes
G
Exposure lamp ON.
Copy density read start
Copy density read ended?
No
Yes
Exposure lamp OFF
Drum initialization operation ended.
Optics home position return operation start.
Optics at home position?
No
Yes
Optics system initialization operation completed.
AA_P125B0


A
Drum initialization operation.
Fuser cooling fan (1) and (2) motor ON (Full speed)
Main motor ON. (Drum, Developer, Fuser units rotate)
Toner bottle home position return operation starts.
H
Have 100 msec. passed?
No
Yes
Developer bias ON.
Suction fan motor ON.
Have 100 msec. passed?
No
Yes
Discharge lamp ON.
Have 100 msec. passed?
No
Yes
Charge/Transfer/ Separation coronas ON.
Has drum rotated 2 cycles 0.7 sec faster?
No
Yes
G
Copy density read start.
Has drum rotated 2 cycles 0.7 sec slower?
No
Yes
Copy density read ended?
No
Yes
Toner bottle home position return?
No
I
Yes
Charge/Transfer/ Separation corona OFF.
Has drum rotated 0.4 cycle?
No
Yes
Fuser cooling fan (1) OFF. Fuser cooling fan (2) OFF.
Have 2 sec. passed?
No
Yes
Main motor OFF. Developer bias OFF. Discharge lamp OFF.
Drum initialization operation ended.
B
Have 5.0 sec. passed?
No
Yes
Suction fan motor OFF.
Copy start?
No
Yes
Wait.
AB_P051U0

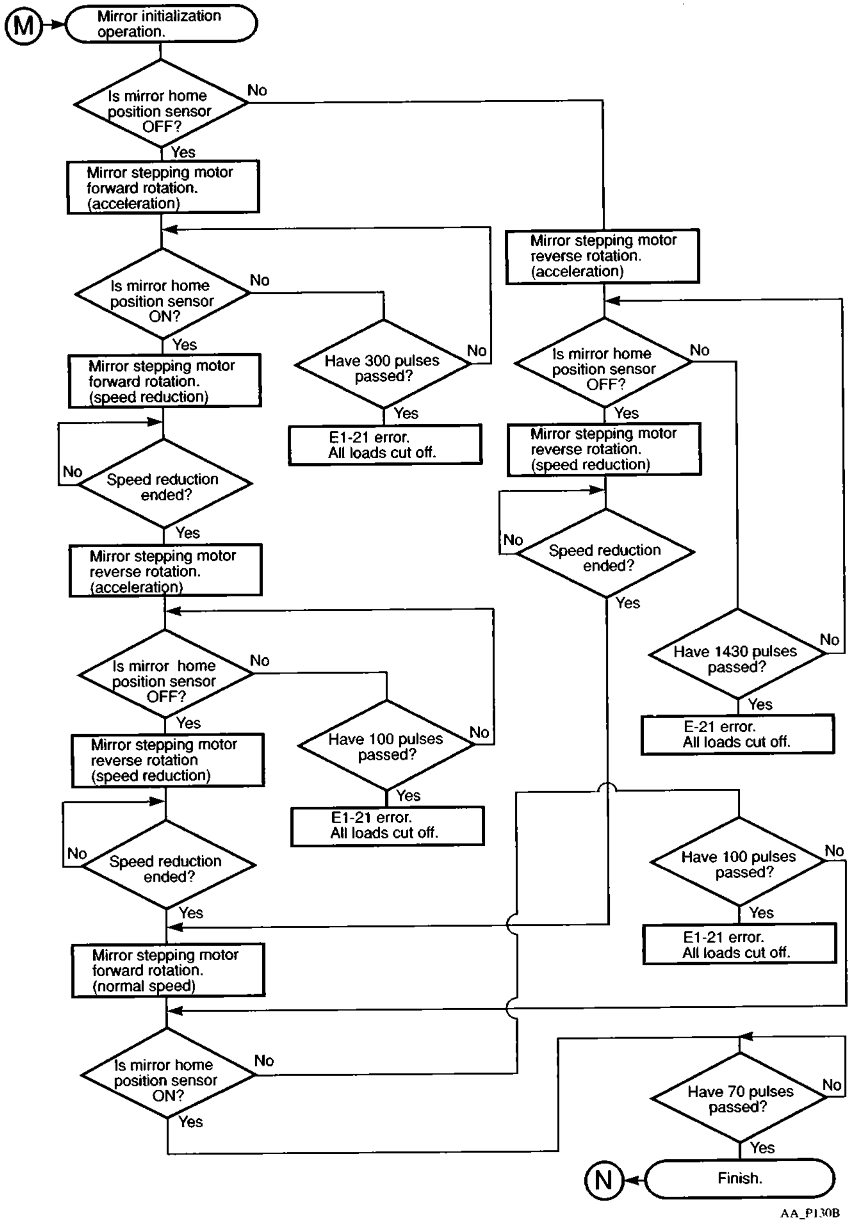

H
Toner bottle (Black) home position return.
Developer (Black) unit.
No
Yes
Is toner bottle home position sensor ON?
Toner bottle (Black) motor ON.
Is toner bottle home position sensor ON?
No
Yes
Toner bottle (Black) motor stop.
I
Finish
Have 12 sec. passed?
No
Yes
Toner bottle (Black) motor stop.
J
Toner supply operation
Developer (Black) unit?
No
Yes
Toner bottle (Black) motor ON.
Is toner bottle home position sensor ON?
No
Yes
Is toner bottle home position sensor OFF?
No
Yes
Have 5.0 sec. passed?
No
Yes
Is toner bottle home position sensor ON?
No
Yes
Have 12 sec. passed?
No
Yes
Manual toner addition?
Yes
No
Does toner bottle rotate twice?
No
Yes
Toner bottle (Black) motor ON.
J
E3-01 error. All roads cut off.
Color toner supply motor ON.
Manual toner addition?
Yes
No
Have 7.92 sec. passed?
No
Yes
Have 15.84 sec. passed?
No
Yes
Color toner supply motor off.
Toner bottle (Black) motor stop.
Finish
AA_P127B0

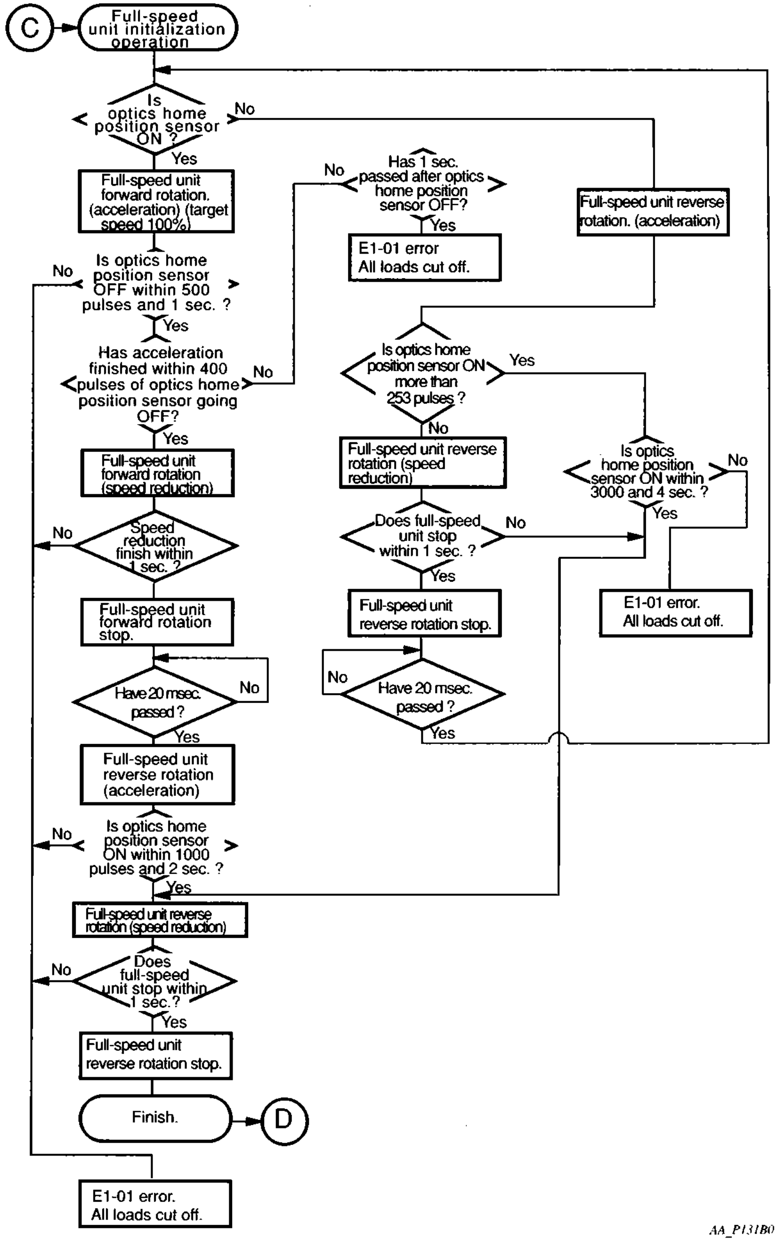

E
Copy ratio initialization operation.
Lens stepping motor power ON.
Mirror stepping motor power ON.
Have 50 msec. passed?
No
Lens/Mirror lock?
No
Yes
Lens stepping motor forward rotation.
Mirror stepping motor forward rotation.
Lens/Mirror stepping motor forward rotation ended?
No
Yes
Lens initialization operation start.
K
Mirror initialization operation start.
M
L
Lens initialization operation ended?
NO
Yes
Lens error?
No
Yes
E1-20 error.
All loads cut off.
N
Mirror initialization operation ended?
No
Yes
Mirror error?
No
Yes
E1-21 error
All loads cut off.
Have 50 msec. passed?
No
Yes
Lens stepping motor power OFF.
Mirror stepping motor power OFF.
Finish
F

AA_P128B0

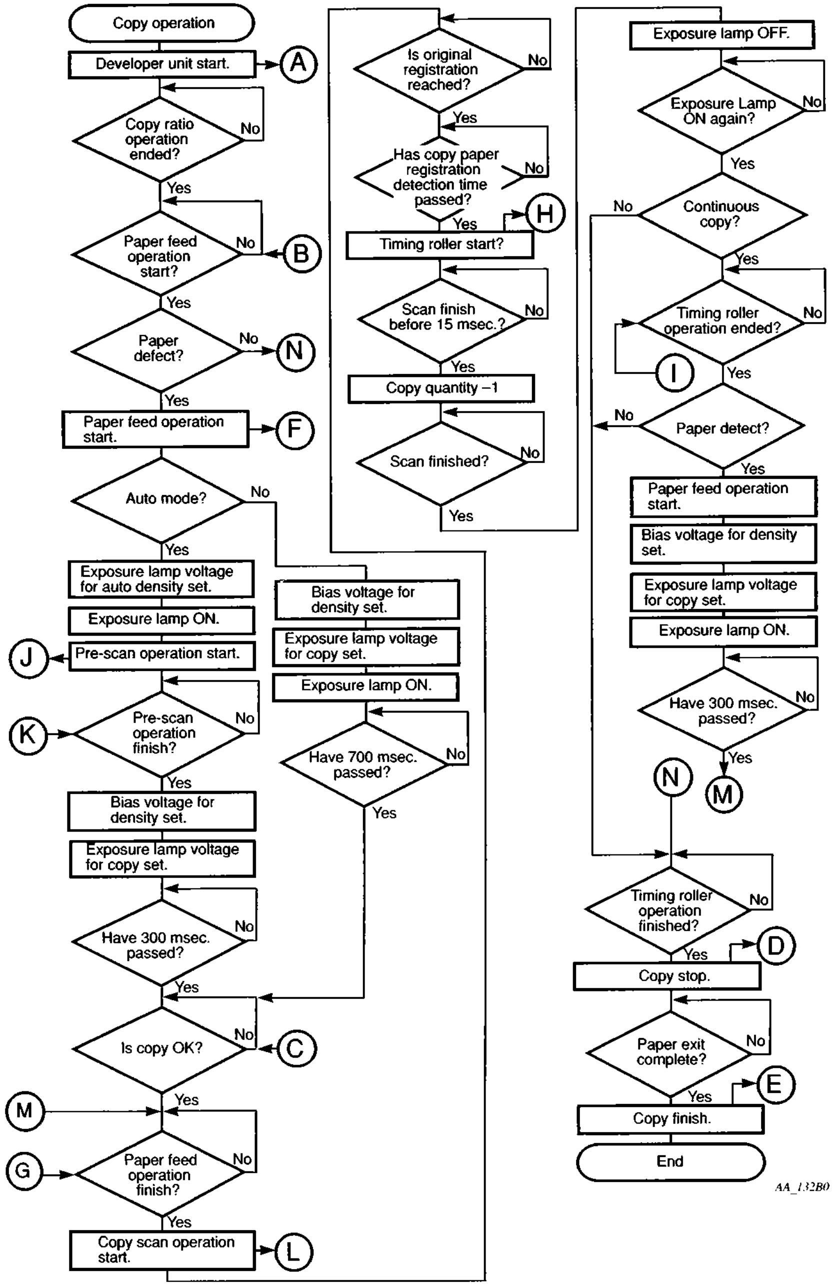

K
Lens initialization operation.
Is lens home position sensor OFF?
No
Yes
Lens stepping motor forward rotation. (acceleration)
Is lens home position sensor ON?
No
Yes
Have 715 pulses passed?
No
Yes
E1-20 error.
All loads cut off.
Lens stepping motor forward rotation. (speed acceleration)
Speed reduction ended?
No
Yes
Lens stepping motor reverse rotation. (acceleration)
Is lens home position sensor OFF?
No
Yes
Have 100 pulses passed?
No
Yes
E1-20 error.
All loads cut off.
Lens stepping motor reverse rotation. (speed reduction)
Speed reduction ended?
No
Yes
Lens stepping motor forward rotation. (normal speed)
Is lens home position sensor ON?
No
Yes
Lens stepping motor reverse rotation. (acceleration)
Is lens home position sensor OFF?
No
Yes
Lens stepping motor reverse rotation. (speed reduction)
Speed reduction ended?
No
Yes
Have 1430 pulses passed?
No
Yes
E1-20 error.
All loads cut off.
Have 100 pulses passed?
No
Yes
E1-20 error.
All loads cut off.
Has a predetermined pulse passed?
No
Yes
Finish.
L

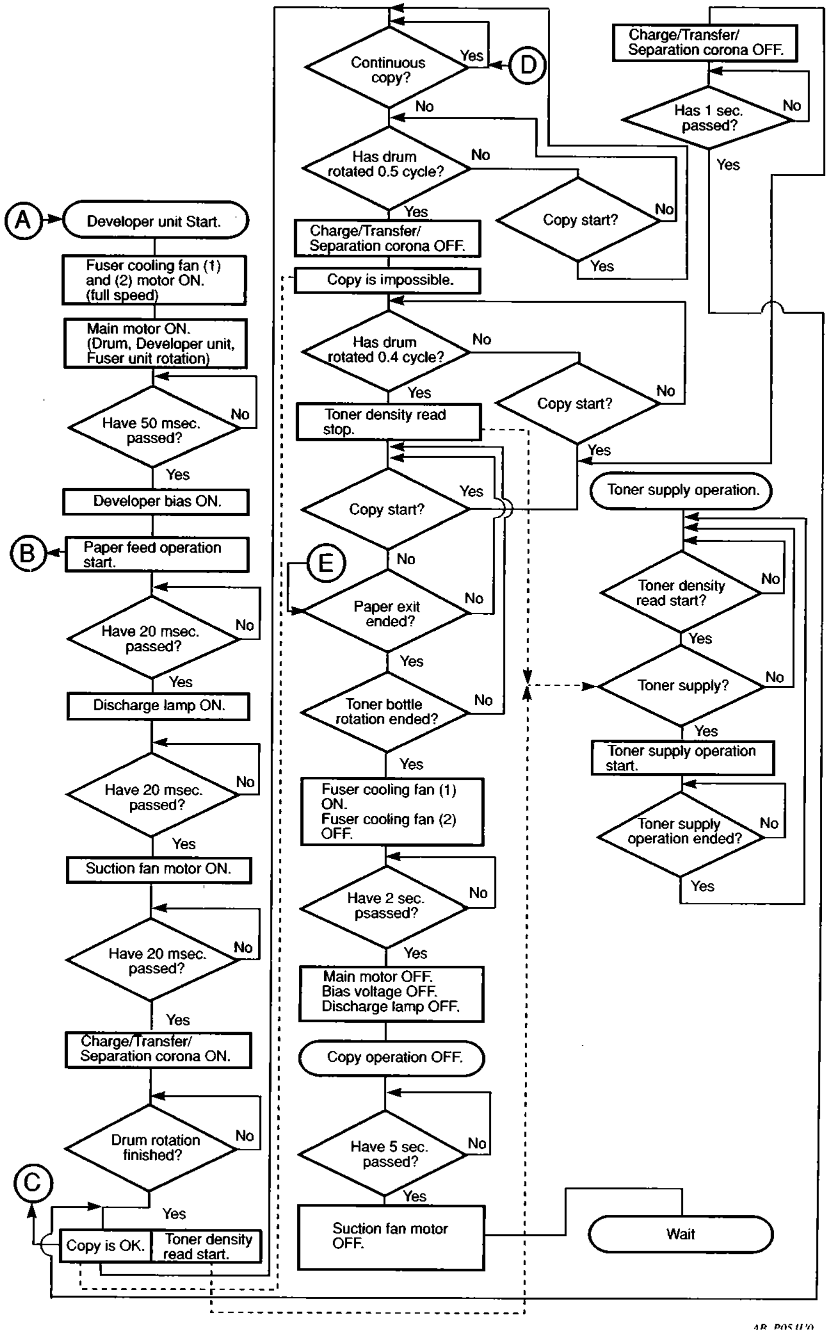
AB_P052U0

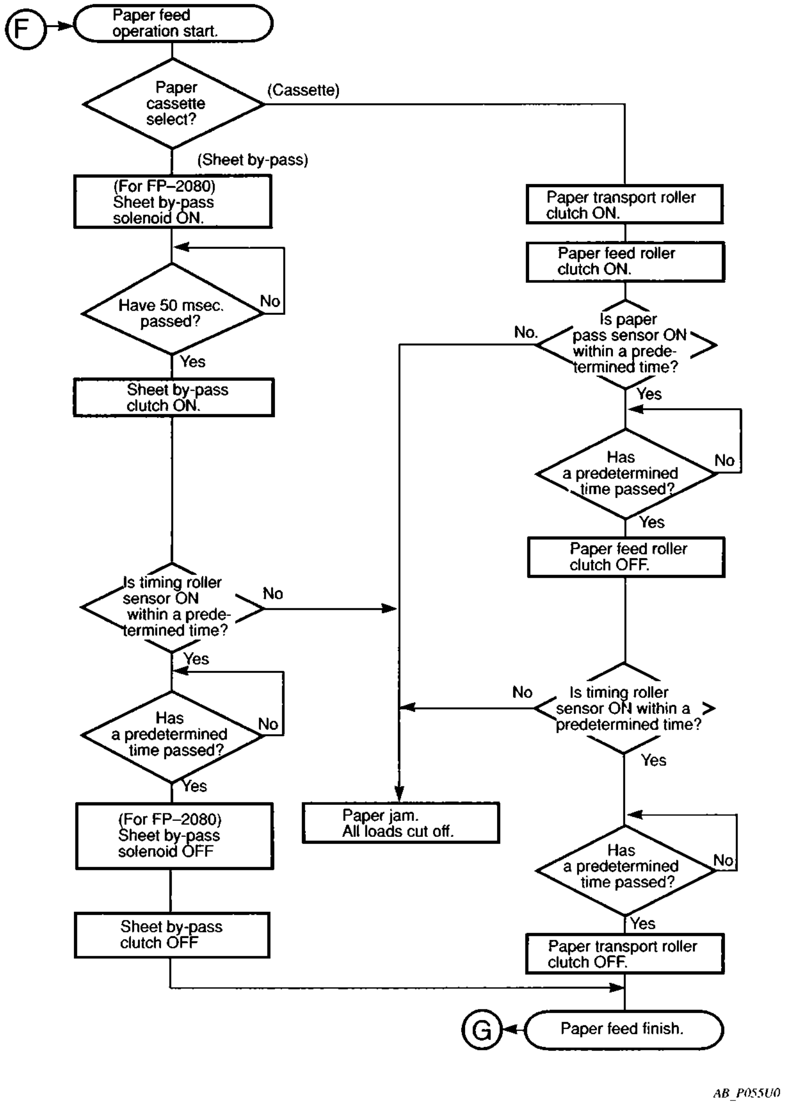

M
Mirror initialization operation.
Is mirror home position sensor OFF?
No
Yes
Mirror stepping motor forward rotation. (acceleration)
Is mirror home position sensor ON?
No
Yes
Have 300 pulses passed?
No
Yes
E1-21 error. All loads cut off.
Mirror stepping motor forward rotation. (speed reduction)
Speed reduction ended?
No
Yes
Mirror stepping motor reverse rotation. (acceleration)
Is mirror home position sensor OFF?
No
Yes
Have 100 pulses passed?
No
Yes
E1-21 error. All loads cut off.
Mirror stepping motor reverse rotation (speed reduction)
Speed reduction ended?
No
Yes
Mirror stepping motor forward rotation. (normal speed)
Is mirror home position sensor ON?
No
Yes
Mirror stepping motor reverse rotation. (acceleration)
Is mirror home position sensor OFF?
No
Yes
Mirror stepping motor reverse rotation. (speed reduction)
Speed reduction ended?
No
Yes
Have 1430 pulses passed?
No
Yes
E-21 error. All loads cut off.
Have 100 pulses passed?
No
Yes
E1-21 error. All loads cut off.
Have 70 pulses passed?
No
Yes
Finish.
N
AA_P130B

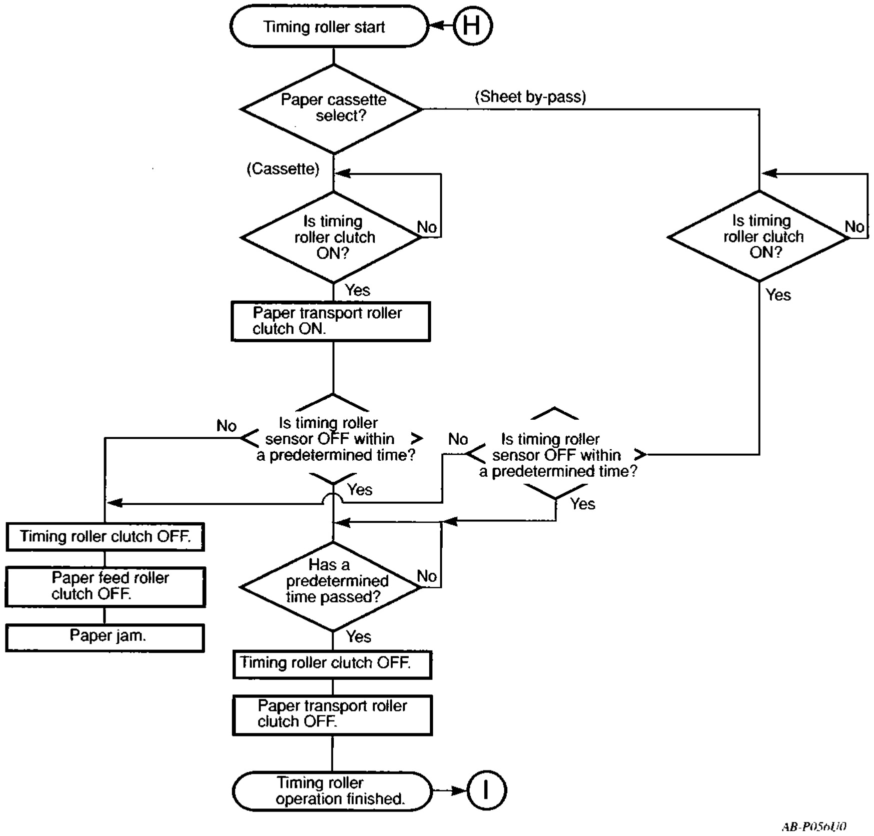

C
Full-speed unit initialization operation
Is optics home position sensor ON ?
No
Yes
Full-speed unit forward rotation. (acceleration) (target speed 100%)
Is optics home position sensor OFF within 500 pulses and 1 sec. ?
No
Yes
Has acceleration finished within 400 pulses of optics home position sensor going OFF?
No
Yes
Has 1 sec. passed after optics home position sensor OFF?
No
Yes
E1-01 error All loads cut off.
Full-speed unit forward rotation (speed reduction)
Speed reduction finish within 1 sec. ?
No
Full-speed unit forward rotation stop.
Have 20 msec. passed ?
No
Yes
Full-speed unit reverse rotation (acceleration)
Is optics home position sensor ON within 1000 pulses and 2 sec. ?
No
Yes
Full-speed unit reverse rotation (speed reduction)
Does full-speed unit stop within 1 sec.?
No
Yes
Full-speed unit reverse rotation stop.
Finish.
D
E1-01 error. All loads cut off.
Full-speed unit reverse rotation. (acceleration)
Is optics home position sensor ON more than 253 pulses ?
Yes
No
Full-speed unit reverse rotation (speed reduction)
Does full-speed unit stop within 1 sec. ?
No
Yes
Full-speed unit reverse rotation stop.
Have 20 msec. passed ?
No
Yes
Is optics home position sensor ON within 3000 and 4 sec. ?
No
Yes
E1-01 error. All loads cut off.
AA_P131B0

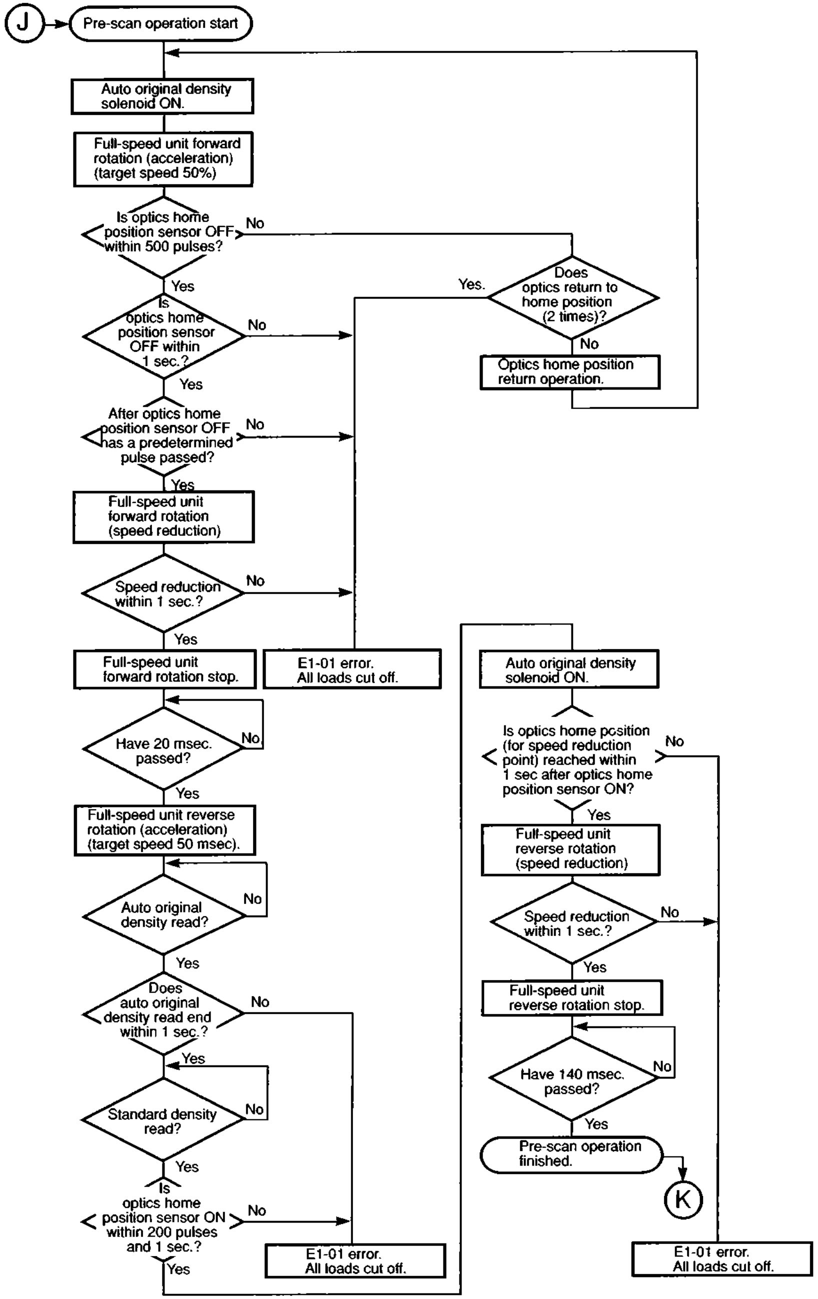
2. Copy operation


Copy operation
Developer unit start.
A
Copy ratio operation ended?
No
Yes
Paper feed operation start?
No
B
Yes
Paper defect?
No
N
Yes
Paper feed operation start.
F
Auto mode?
No
Yes
Exposure lamp voltage for auto density set.
Exposure lamp ON.
J
Pre-scan operation start.
K
Pre-scan operation finish?
No
Yes
Bias voltage for density set.
Exposure lamp voltage for copy set.
Have 300 msec. passed?
No
Yes
Is copy OK?
No
C
M
Yes
G
Paper feed operation finish?
No
Yes
Copy scan operation start.
L
Bias voltage for density set.
Exposure lamp voltage for copy set.
Exposure lamp ON.
Have 700 msec. passed?
No
Yes
Is original registration reached?
No
Yes
Has copy paper registration detection time passed?
No
Yes
H
Timing roller start?
Scan finish before 15 msec.?
No
Yes
Copy quantity –1
Scan finished?
No
Yes
Exposure lamp OFF.
Exposure Lamp ON again?
No
Yes
Continuous copy?
No
Yes
Timing roller operation ended?
No
I
Yes
Paper detect?
No
Yes
Paper feed operation start.
Bias voltage for density set.
Exposure lamp voltage for copy set.
Exposure lamp ON.
Have 300 msec. passed?
No
Yes
N
M
Timing roller operation finished?
No
Yes
D
Copy stop.
Paper exit complete?
No
Yes
E
Copy finish.
End
AA_132B0

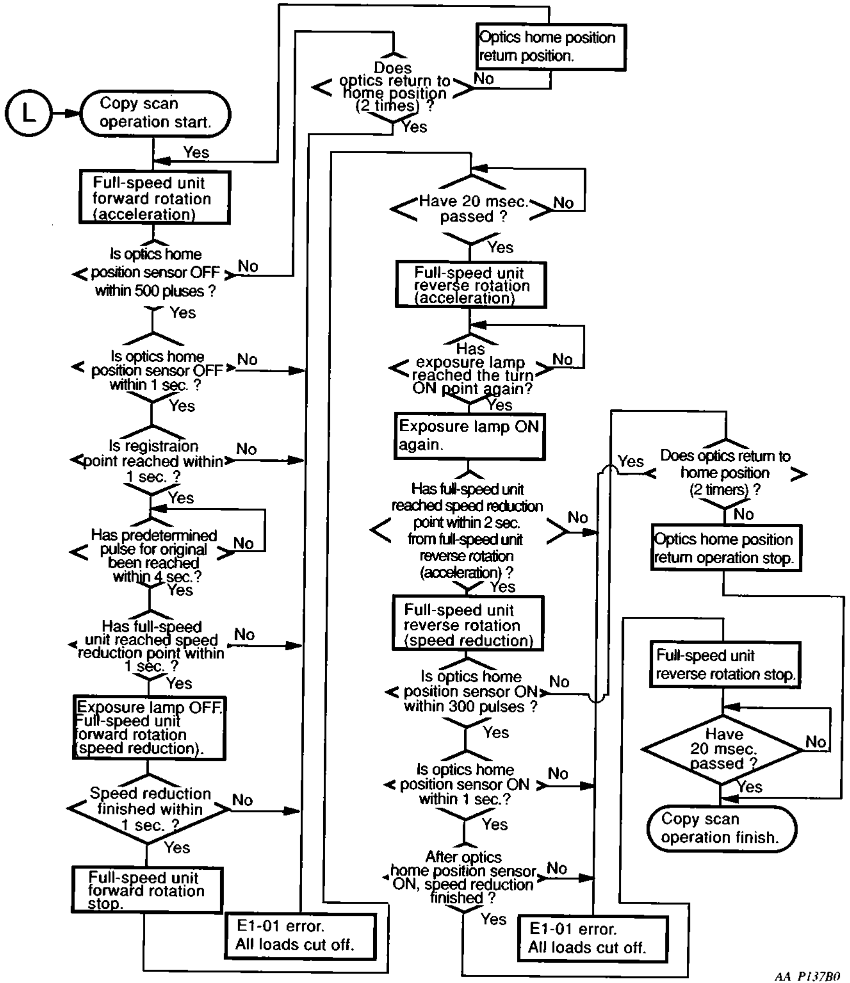

A
Developer unit Start.
Fuser cooling fan (1) and (2) motor ON. (full speed)
Main motor ON. (Drum, Developer unit, Fuser unit rotation)
Have 50 msec. passed?
No
Yes
Developer bias ON.
B
Paper feed operation start.
Have 20 msec. passed?
No
Yes
Discharge lamp ON.
Have 20 msec. passed?
No
Yes
Suction fan motor ON.
Have 20 msec. passed?
No
Yes
Charge/Transfer/ Separation corona ON.
Drum rotation finished?
No
Yes
C
Copy is OK.
Toner density read start.
Continuous copy?
Yes
D
No
Has drum rotated 0.5 cycle?
No
Yes
Charge/Transfer/ Separation corona OFF.
Copy is impossible.
Has drum rotated 0.4 cycle?
No
Yes
Toner density read stop.
Copy start?
Yes
No
E
Paper exit ended?
No
Yes
Toner bottle rotation ended?
No
Yes
Fuser cooling fan (1) ON. Fuser cooling fan (2) OFF.
Have 2 sec. psassed?
No
Yes
Main motor OFF. Bias voltage OFF. Discharge lamp OFF.
Copy operation OFF.
Have 5 sec. passed?
No
Yes
Suction fan motor OFF.
Wait
Copy start?
No
Yes
Copy start?
No
Yes
Charge/Transfer/ Separation corona OFF.
Has 1 sec. passed?
No
Yes
Toner supply operation.
Toner density read start?
No
Yes
Toner supply?
No
Yes
Toner supply operation start.
Toner supply operation ended?
No
Yes


F
Paper feed operation start.
Paper cassette select?
(Cassette)
(Sheet by-pass)
(For FP–2080) Sheet by-pass solenoid ON.
Have 50 msec. passed?
No
Yes
Sheet by-pass clutch ON.
Is timing roller sensor ON within a predetermined time?
No
Yes
Has a predetermined time passed?
No
Yes
(For FP–2080) Sheet by-pass solenoid OFF
Sheet by-pass clutch OFF
Paper transport roller clutch ON.
Paper feed roller clutch ON.
Is paper pass sensor ON within a predetermined time?
No.
Yes
Has a predetermined time passed?
No
Yes
Paper feed roller clutch OFF.
Is timing roller sensor ON within a predetermined time?
No
Yes
Paper jam. All loads cut off.
Has a predetermined time passed?
No
Yes
Paper transport roller clutch OFF.
Paper feed finish.
G
AB_P055U0


Timing roller start
H
Paper cassette select?
(Sheet by-pass)
(Cassette)
Is timing roller clutch ON?
No
Yes
Paper transport roller clutch ON.
Is timing roller clutch ON?
No
Yes
Is timing roller sensor OFF within a predetermined time?
No
Yes
Is timing roller sensor OFF within a predetermined time?
No
Yes
Timing roller clutch OFF.
Paper feed roller clutch OFF.
Paper jam.
Has a predetermined time passed?
No
Yes
Timing roller clutch OFF.
Paper transport roller clutch OFF.
Timing roller operation finished.
I
AB-P056U0


J
Pre-scan operation start
Auto original density solenoid ON.
Full-speed unit forward rotation (acceleration) (target speed 50%)
Is optics home position sensor OFF within 500 pulses?
No
Yes
Is optics home position sensor OFF within 1 sec.?
No
Yes
After optics home position sensor OFF has a predetermined pulse passed?
No
Yes
Full-speed unit forward rotation (speed reduction)
Speed reduction within 1 sec.?
No
Yes
Full-speed unit forward rotation stop.
E1-01 error. All loads cut off.
Have 20 msec. passed?
No
Yes
Full-speed unit reverse rotation (acceleration) (target speed 50 msec).
Auto original density read?
No
Yes
Does auto original density read end within 1 sec.?
No
Yes
Standard density read?
No
Yes
Is optics home position sensor ON within 200 pulses and 1 sec.?
No
Yes
E1-01 error. All loads cut off.
Does optics return to home position (2 times)?
Yes.
No
Optics home position return operation.
Auto original density solenoid ON.
Is optics home position (for speed reduction point) reached within 1 sec after optics home position sensor ON?
No
Yes
Full-speed unit reverse rotation (speed reduction)
Speed reduction within 1 sec.?
No
Yes
Full-speed unit reverse rotation stop.
Have 140 msec. passed?
No
Yes
Pre-scan operation finished.
K
E1-01 error. All loads cut off.

AB_P057U0


L
Copy scan operation start.
Yes
Full-speed unit forward rotation (acceleration)
Is optics home position sensor OFF within 500 pluses ?
No
Yes
Is optics home position sensor OFF within 1 sec. ?
No
Yes
Is registraion point reached within 1 sec. ?
No
Yes
Has predetermined pulse for original been reached within 4 sec.?
No
Yes
Has full-speed unit reached speed reduction point within 1 sec. ?
No
Yes
Exposure lamp OFF. Full-speed unit forward rotation (speed reduction).
Speed reduction finished within 1 sec. ?
No
Yes
Full-speed unit forward rotation stop.
E1-01 error. All loads cut off.
Does optics return to home position (2 times) ?
No
Yes
Optics home position return position.
Have 20 msec. passed ?
No
Yes
Full-speed unit reverse rotation (acceleration)
Has exposure lamp reached the turn ON point again?
No
Yes
Exposure lamp ON again.
Has full-speed unit reached speed reduction point within 2 sec. from full-speed unit reverse rotation (acceleration) ?
No
Yes
Full-speed unit reverse rotation (speed reduction)
Is optics home position sensor ON within 300 pulses ?
No
Yes
Is optics home position sensor ON within 1 sec.?
No
Yes
After optics home position sensor ON, speed reduction finished ?
No
Yes
E1-01 error. All loads cut off.
Yes
Does optics return to home position (2 timers) ?
No
Optics home position return operation stop.
Full-speed unit reverse rotation stop.
Have 20 msec. passed ?
No
Yes
Copy scan operation finish.

AA_P137B0

5.3 General (PCBs)

Listed below are PCBs (Printed Circuit Boards) and major electrical components along with a brief description of their operation and functions.

1. **CPU PCB**
   The CPU PCB performs the majority of machine logic. The CPU PCB uses 1 microprocessor to perform electrical/mechanical sequence operations.
   This PCB controls the microprocessor circuit, exposure lamp circuit, fuser temperature control circuit. The triangular wave circuit controls the exposure level. The stepping motor drive control input (ON/OFF, Forward/Reverse, Copy size ratio signal) are on the CPU PCB and perform the related high power switching. This circuit also contains the phase locked loop (PLL) circuitry that precisely controls the speed of the DC drive main motor. The DC motor contains a sensor that feeds back a speed signal to the circuit. This signal is matched against a reference signal. If the motor speed is too fast or too slow, the motor control circuit will then change the input to the motor.

2. **AC driver PCB**
   This board supplies the low voltage circuits and operational circuits for the exposure lamp and fuser lamp. The zero cross generation circuit is supplied to the CPU PCB. DC+10V operates the CPU PCB.

3. **Low voltage power supply PCB**
   This board supplies low voltage. The low voltage power supply circuits supply stabilized DC+5V and DC+24V. The DC+5V operates CPU PCB. The DC+24V operates solenoids, main motor and lens unit scanner motor.

4. **High voltage power supply (1) PCB**
   The high voltage power supply has five functions. It supplies the charge corona (for Document and Photo mode) and transfer corona with high voltage DC and the magnetic brush with a bias voltage grid voltage and shield current.

5. **High voltage power supply (2) PCB**
   The high voltage power supply supplies the separation corona with high voltage AC.

6. **Control panel (1), (2) and (3) PCB**
   Control panel (1) for the LED section allows the operator to monitor the operation of the copier. It indicates for example, the amount of copies selected, selected paper size, and selected exposure lamp levels, etc, using The LED display. Control panel (2) for the zoom, trimming, sorter modes, etc, using the appropriate keys. Control panel (3) for power indications.

5.4 Description of circuits

1. Triangular wave generating circuit

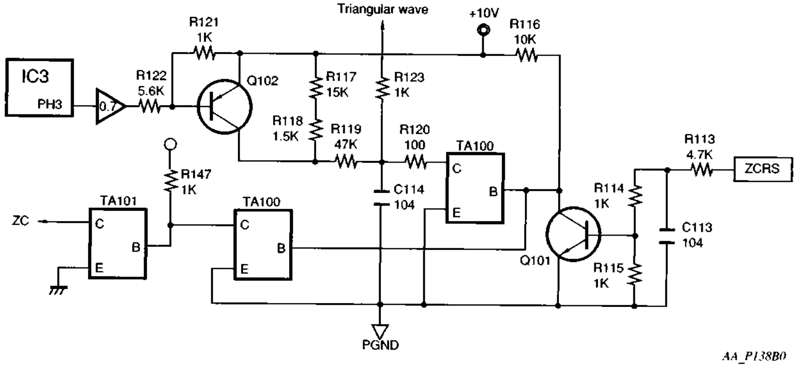


Figure 5-19-1

The CPU PCB generates triangular waves which are synchronized with the power supply wave forms (two times the frequency), and supplied to the exposure lamp control circuit to perform phase control. The circuit construction is shown in figure 5-19-1. ZCRS is a full-wave rectified AC pulse with a frequency twice the power supply frequency. Q101 and TA100 are turned ON/OFF by ZCRS, while the triangular waves are generated by the intergrated circuit comprised of R117, R118, R119 and C114. Frequency control signal is always a "Low" level and Q102 is always "ON". The operational time of the triangular wave generating circuit is shown in figure 5-19-2.

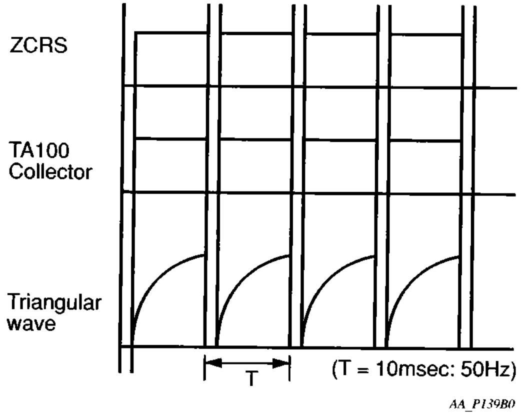
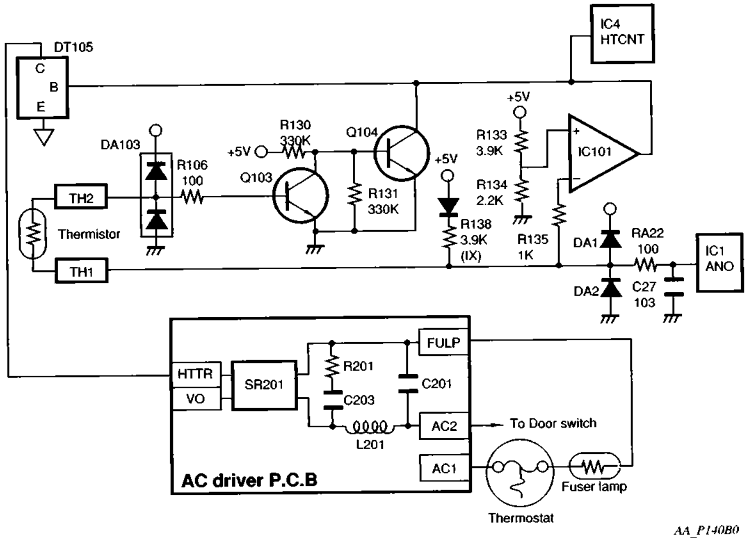


Figure 5-19-2

2. Fuser temperature control circuit


DT105
C
B
E
IC4
HTCNT
+5V
DA103
R106
100
R130
330K
Q104
+5V
Q103
R133
3.9K
R134
2.2K
IC101
R131
330K
R138
3.9K
(IX)
R135
1K
TH2
Thermistor
TH1
DA1
DA2
RA22
100
C27
103
IC1
ANO
HTTR
VO
SR201
R201
C203
C201
L201
FULP
AC2
AC1
To Door switch
Fuser lamp
Thermostat
AC driver P.C.B

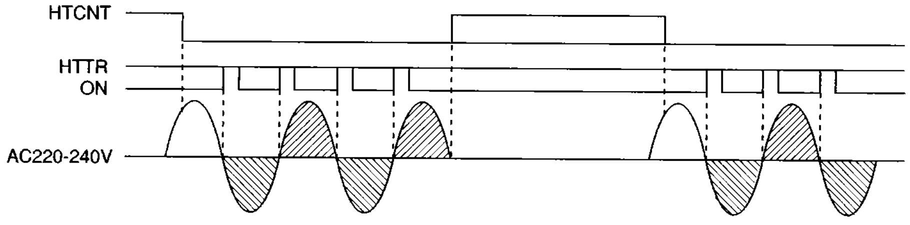
AA_P140B0

Figure 5-20-1

The CPU PCB fuser temperature control circuit turns the fuser lamp on when the fuser temperature falls below the specified temperature and turns the lamp off when it exceeds the operating temperature. The functions of this circuit are;

- Fuser temperature control.
- Detection of thermistor circuit.
- Turns the fuser off during a copier malfunction.

If the fuser temperature drops below the set level, a “High” level signal is output through terminal HTCNT of IC4, the transistor (“High” level ON) of DT105 turns ON, and the fuser lamp is turned on by the operation of SR201 on AC driver PCB. As the fuser temperature reaches its set level, terminal HTCNT of IC4 is switched to a “Low” level by the change in resistance of the thermistor.
Transistor DT105 turns OFF, and the fuser lamp goes out. In this way, the fuser temperature is maintained at a constant level. The temperature is detected by the thermistor by inputting into IC1 the voltage (+5V) which is generated as a power supply.



AB_P026GO

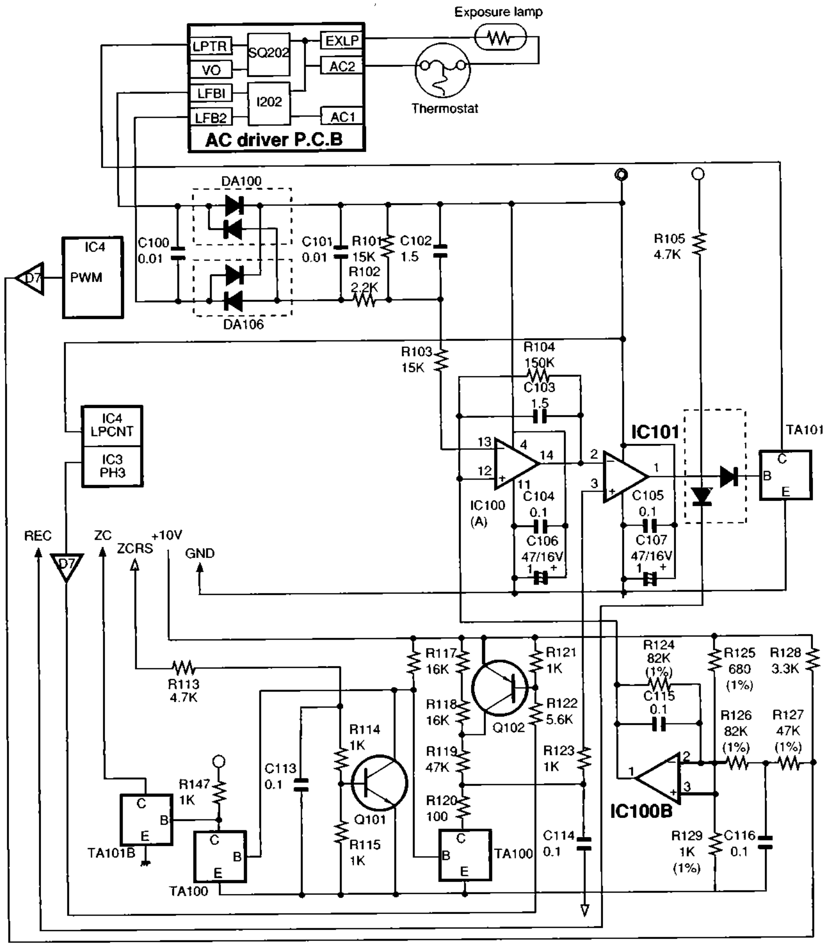
Figure 5-21-1

If the thermistor develops burnout, transistor Q103 turns OFF, transistor Q104 turns ON, and the base(B) of DT105 turns to a “Low” level, ensuring that transistor DT105 doesn’t turn ON and prevents the fuser lamp from lighting. If fuser temperature rises abnormally due to faults (other than burnout) of the thermistor, etc, the change in voltage (inverse input terminal side) of plus terminal of IC101 causes the base(B) of DT105 to switch over to a “Low” level, preventing transistor DT105 from turning ON and forcibly turning OFF the fuser lamp and thereby protects the fuser unit from damage.

3. Exposure lamp control circuit

The CPU PCB controls the ON/OFF signal and intensity of the exposure lamp. The ON/OFF signal from the CPU is IC4(LPCNT) (Exposure lamp control signal). When the Print key is pressed, the exposure lamp control signal becomes "High" until the end of scan. During return scan, the exposure lamp control signal is "Low" until copy end.

Transformer (T202) is connected in parallel with the exposure lamp and feeds back the applied voltage signal on the exposure lamp to the CPU PCB. The circuit construction is shown in figure 5-22-1.


Exposure lamp
Thermostat
LPTR
VO
LFBI
LFB2
SQ202
I202
EXLP
AC2
AC1
AC driver P.C.B
DA100
DA106
IC4
PWM
C100 0.01
C101 0.01
R101 15K
R102 2.2K
C102 1.5
R105 4.7K
R103 15K
R104 150K
C103 1.5
IC101
TA101A
IC4 LPCNT
IC3 PH3
IC100 (A)
C104 0.1
C106 47/16V
C105 0.1
C107 47/16V
REC
ZC
ZCRS
+10V
GND
D7
R113 4.7K
R117 16K
R118 16K
R119 47K
R120 100
R121 1K
R122 5.6K
R123 1K
R114 1K
R115 1K
Q101
Q102
C113 0.1
R147 1K
TA101B
TA100
C114 0.1
R124 82K (1%)
C115 0.1
R125 680 (1%)
R126 82K (1%)
R127 47K (1%)
R128 3.3K
R129 1K (1%)
C116 0.1
IC100B

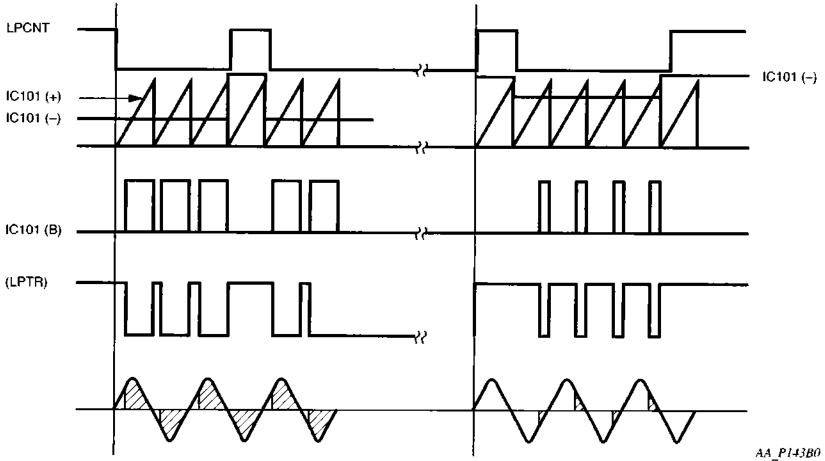
AA_P142B0

Figure 5-22-1

The secondary voltage of the transformer is full wave-rectified by D100 and D106 after being divided by R101 and R102 and filtered by C102 into DC waveforms. One of the DC waveforms is connected to +10V, and the other is to the non-inverted input terminal of IC100A (opamplifier) through R103. When TA101A goes ON, SR202 is activated to light the exposure lamp. The light exposure amount is varied by varying the signal sent from IC4 by means of the voltage at the inverted input terminal of IC100B. A change in the exposure amount occurs in the following cases.

a. When the exposure control keys on the control panel are pressed.
b. When the photo mode key on control panel is selected.
c. When reduction, 1:1 and enlargement keys are pressed.

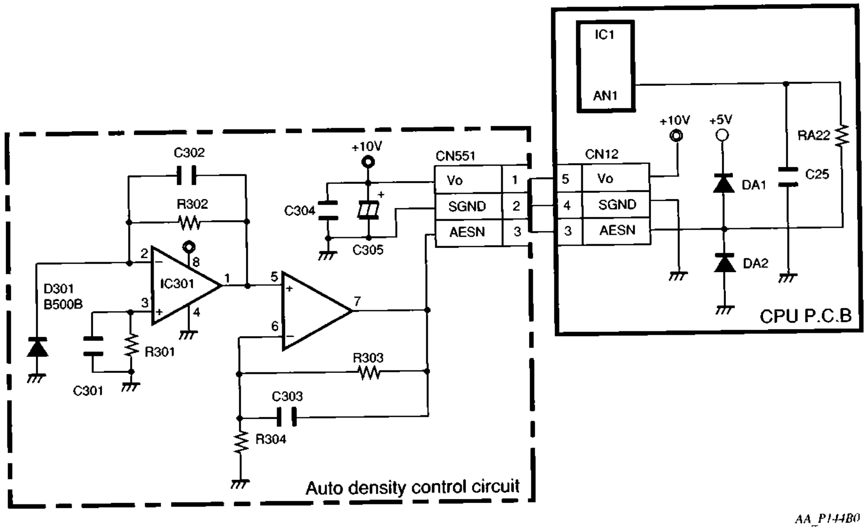
IC100A amplified voltage goes to the inverted input terminal of IC101, then it is compared with the triangular waveforms at the non-inverted input terminal of IC101. The output of IC101, an open collector type comparator pulled up by R105, enters into the base of TA101A. When TA101A is in the ON state, the exposure lamp lights. In normal operation, when the exposure lamp control signal is "High", LPTR (Trigger signal for exposure lamp) is transmitted by switching TA101A from the output of IC101. The operational time of exposure lamp control circuit is shown in figure 5-23-1.



AA_P143B0

Figure 5-23-1

4. Auto original density control circuit


IC1
AN1
+10V
+5V
RA22
C25
DA1
DA2
CPU P.C.B
CN12
5
4
3
Vo
SGND
AESN
CN551
1
2
3
C302
R302
+10V
C304
C305
D301
B500B
IC301
2
3
8
1
4
5
6
7
C301
R301
R303
C303
R304
Auto density control circuit

AA_P144B0

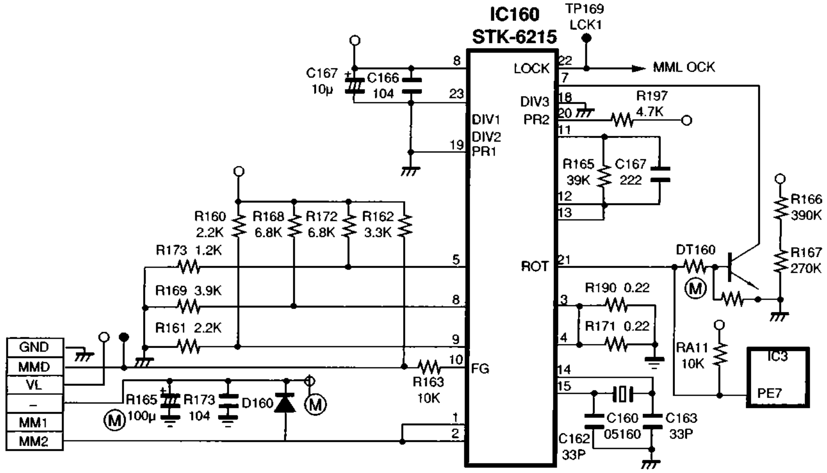
Figure 5-24-1

This circuit of the CPU PCB. detects the original density by comparing the signal received from auto original density sensor with the reference voltage. It reads the light reflected from original during pre-scan with the sensor of D301 and outputs it as AESN (Auto original density sensor signal).

If the original density is dark, the output of the auto original density sensor turns "Low". If the original density is light, it turns "High"; AESN is output, and it is then input into AN1 of IC1. In this way, the density levels of the original and reference pattern are read, computation is done, exposure level is accordingly regulated, and image density is controlled.

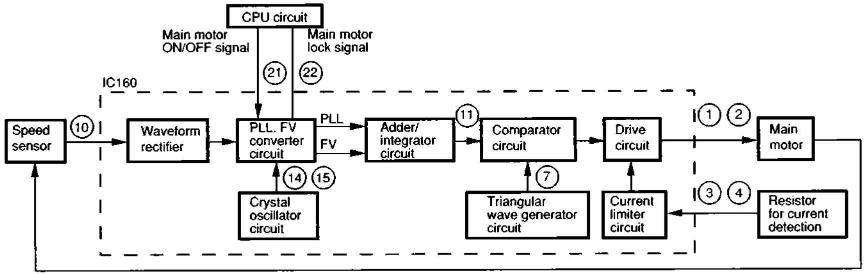
5. Main motor control circuit

This circuit comes built into the CPU PCB. The main motor is controlled by (PLL) phase comparison, according to the reference frequency prepared by the crystal oscillator. Figure 5-26-1 shows a block diagram of this circuit. The square wave pulse of the speed sensor, matched to the speed of the main motor is input into ⑩ (pin ⑩ of IC160). This pulse is signal-processed inside the IC; if the speed is fast, the analog voltage of ⑪ rises, if slow, it drops down (waveform of Ⓒ). This analog voltage is compared with a chopping wave (waveform of Ⓓ), and the drive circuit is kept ON allowing current to flow to the motor until the voltage of the chopping wave becomes higher. The drive circuit is kept OFF while the voltage of ① , ② is high (24V); and kept ON while it is low (waveform of Ⓕ). As a result, the duty of the output waveform of ① , ② becomes small, supplying additional current to the motor, when the load of the motor is heavy. The duty becomes large, supplying less current to the motor, when the load is light; as in the waveform of Ⓖ. The current control circuit in Figure 5-25-1 ensures that no more than 5A of current doesn't flows to the motor when it starts or if the motor is a locked condition. When the motor is stopped, the CPU turns "High" the MMCNT of ㉑ , lowers the analog voltage of ⑪, and turns OFF the drive circuit. If the frequency of the speed sensor of ① is within ± 6% of the prescribed value, the MMLOCK of ㉒ turns "Low", while others turn "High". If the motor speed becomes abnormal, the CPU detects this signal and displays machine error.


IC160
STK-6215
TP169
LCK1
LOCK
MML OCK
C167 10μ
C166 104
8
23
19
DIV1
DIV2
PR1
DIV3
PR2
22
7
18
20
11
R197 4.7K
R165 39K
C167 222
12
13
R166 390K
R167 270K
DT160
ROT
21
R160 2.2K
R168 6.8K
R172 6.8K
R162 3.3K
R173 1.2K
R169 3.9K
R161 2.2K
5
8
9
10
FG
R163 10K
1
2
3
4
R190 0.22
R171 0.22
RA11 10K
IC3
PE7
14
15
C160 05160
C163 33P
C162 33P
GND
MMD
VL
–
MM1
MM2
R165 100μ
R173 104
D160
Ⓜ

AB_P023U0

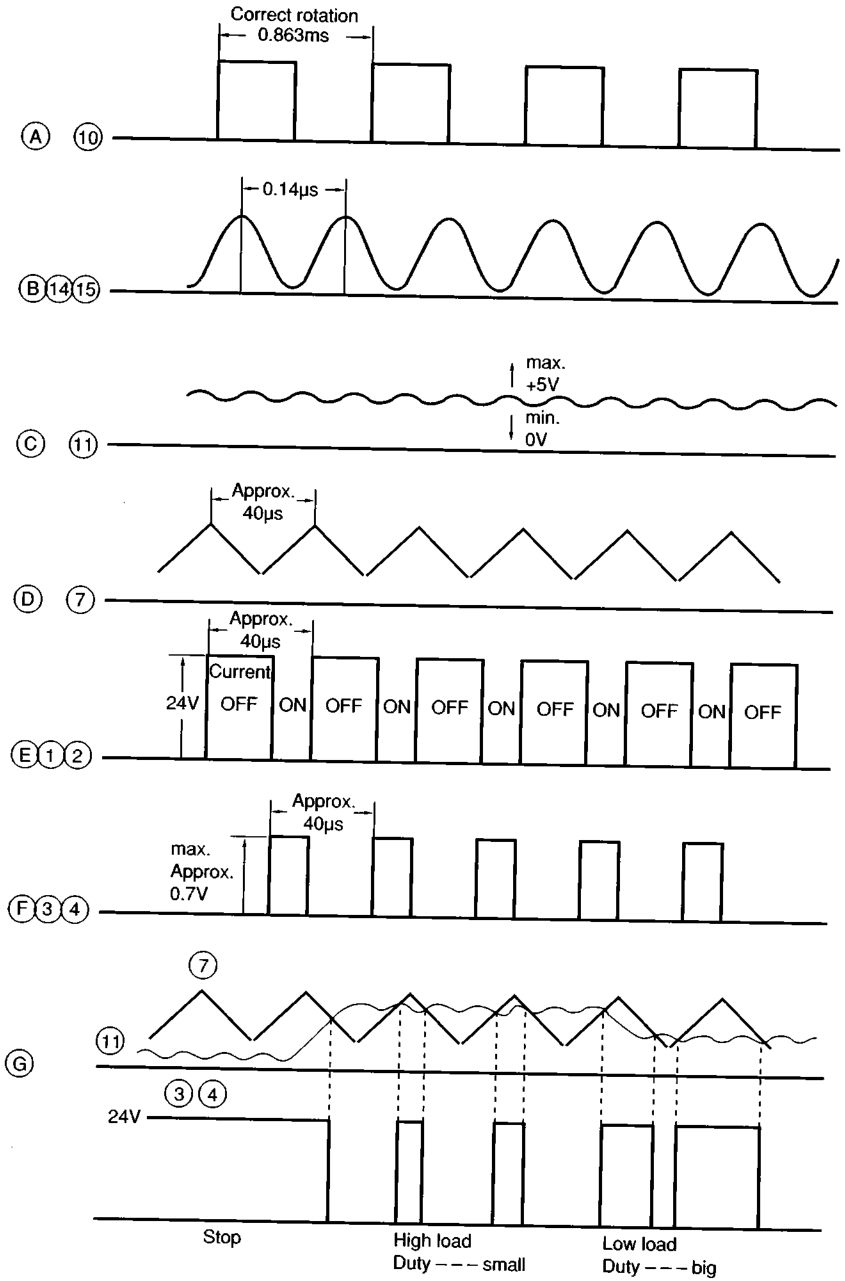
Figure 5-25-1


CPU circuit
Main motor ON/OFF signal
Main motor lock signal
(21)
(22)
IC160
Speed sensor
(10)
Waveform rectifier
PLL. FV converter circuit
PLL
FV
Adder/ integrator circuit
(11)
Comparator circuit
Drive circuit
① ②
Main motor
(14) (15)
Crystal oscillator circuit
⑦
Triangular wave generator circuit
Current limiter circuit
③ ④
Resistor for current detection

(The section with the dotted line indicates the control circuit IC160. and numerical indicates pin number of IC160)

AA_P146B0

Figure 5-26-1



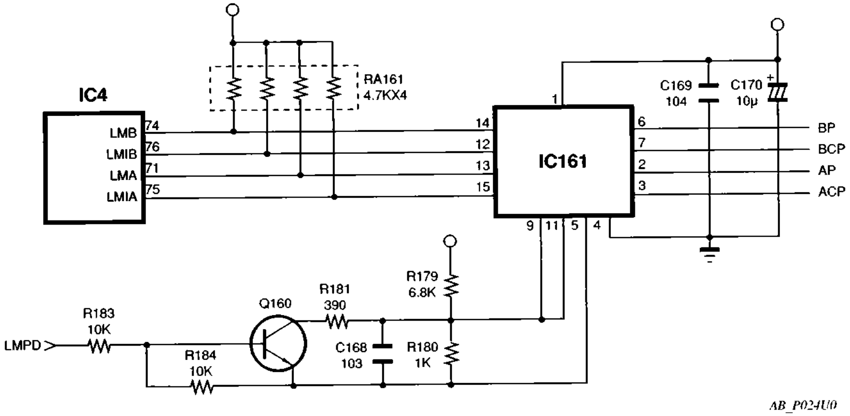
AA_P147B0

Figure 5-27-1

6. Lamp unit scanner motor control circuit

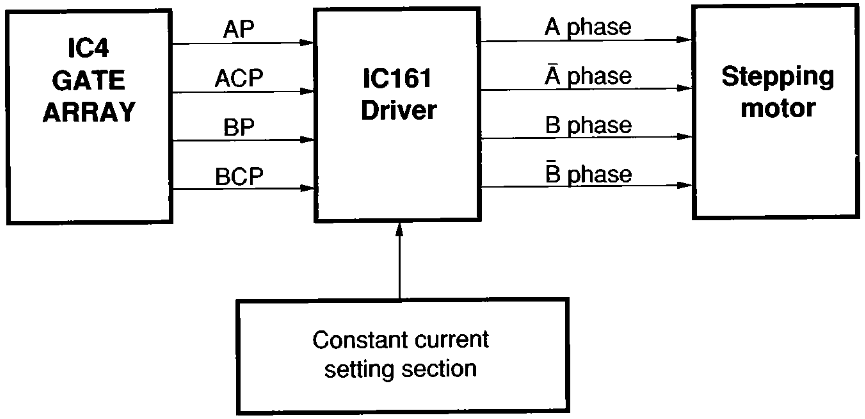
The lamp unit scanner motor is a 4-phase stepping motor driven by constant-current. A block diagram of this circuit is shown in Figure 5-28-2. The stepping motor is rotated by exciting phases $A \rightarrow B \rightarrow \overline{A} \rightarrow \overline{B}$in this order. By exciting phases in reverse order, the motor rotates in the reverse direction (Figure 5-29-1). In the driver of IC161, the set value of current is determined by the reference voltage that is divided by R179 and R180. If the motor current exceeds this set current value at the time of motor excitation, the driver turns OFF.

Excitation is done by repeatedly turning the driver ON/OFF in this way (Figure 5-29-2).


IC4
LMB
LMIB
LMA
LMIA
74
76
71
75
RA161
4.7KX4
IC161
14
12
13
15
1
6
7
2
3
9
11
5
4
C169
104
C170
10μ
BP
BCP
AP
ACP
R179
6.8K
R181
390
Q160
R183
10K
LMPD
R184
10K
C168
103
R180
1K

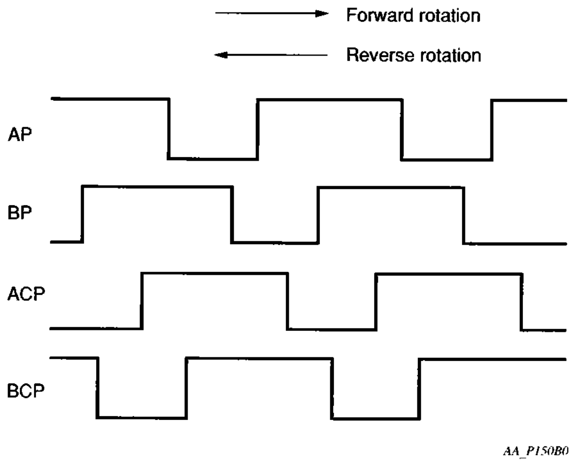
AB_P024U0

Figure 5-28-1


IC4
GATE
ARRAY
AP
ACP
BP
BCP
IC161
Driver
A phase
Ā phase
B phase
B̄ phase
Stepping
motor
Constant current
setting section

AB_P025U0

Figure 5-28-2


Forward rotation
Reverse rotation
AP
BP
ACP
BCP

AA_P150B0

Figure 5-29-1

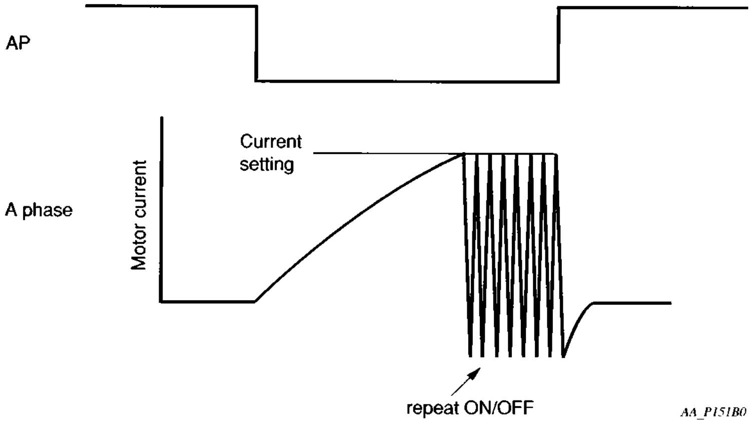

AP
A phase
Motor current
Current
setting
repeat ON/OFF

Figure 5-29-2

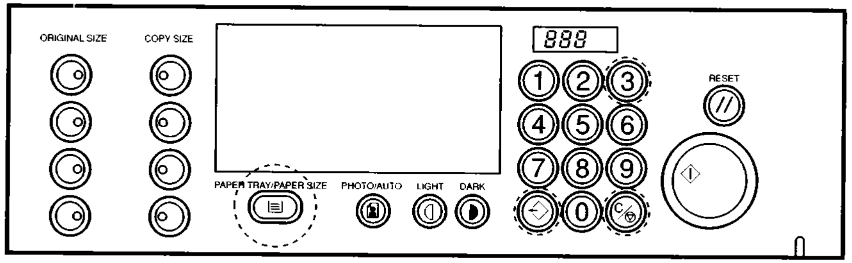
AA_P151B0

Section VI
Troubleshooting

6.1 Service mode

In service mode, the technician can check for abnormalities in the copier, so the copier can always be kept in normal operating condition. The input/output of every section can be checked. The service mode is selected when "PAPER TRAY/ PAPER SIZE", "Multi-Copy" key "3" and "RECALL" keys are simultaneously pressed, then F1 will appear in the "Digit" display. (If the copier is abnormal, then F4 will appear in the "Digit" display.). The service mode is released when "PAPER TRAY/PAPER SIZE", "Multi-Copy" key "3" and "CLEAR/STOP" keys are pressed simultaneously.

Note: After servicing, if the copier is left in the "F" mode and shut off, when the copier is turned ON again, it will still be in the "F" mode. The release program must be used to remove the "F" mode.



AB_P016F0

Figure 6-1-1

Caution: A high voltage hazard remains even when the machine is not operating. Always disconnect the machine from its power source (wall outlet) before servicing or disassembly.

1. Service mode functions

Service mode	Item	Function
F1	Display check	Indicators and display check.
F2	Single sheet copying	For single copy operation.
F3	Continuous copying	For continuous copy operation
F4	Input/ Output check	The functioning of Input/ Output items (selected item numbers) is checked.
F5	Copier function programming	Various function settings (selected by code numbers) can be changed.
F6	Adjustment and Programming	Various adjustment settings (selected by code numbers) can be changed.
F7	Electronic counter	Reads or Resets the electronic counter.
F8	Copier operating adjustment	Perform pseudo-operation of an item (selected by code numbers).

Note: Memory sheet for F5 and F6, RAM information is attached to the inner cover (middle).

- **Service mode key functions:**

Item	Key		Function
Manual toner addition	PAPER TRAY/ PAPER SIZE key	Multi-copy key "0"	Toner bottle rotates 2 times.
Electronic addition		Multi-copy key "3"	Total count of all copies are read.
Cancellation of ADF (Automatic Document Feeder)		Multi-copy key "5" • After the keys are pressed, turn the power switch OFF, then ON.	If there is an ADF malfunction, and the copier is needed, the ADF can be removed. **Note:** When the ADF is installed again, you have to reprogram the ADF. F5-20-1, and turn the power switch OFF, then ON.
Cancellation of Sorter		Multi-copy key "6" • After the keys are pressed, turn the power switch OFF, then ON.	If there is a Sorter malfunction, and the copier is needed, the Sorter can be removed. **Note:** When the sorter is installed again, you have to reprogram the sorter. F5-21-1, and turn the power switch OFF, then ON.
Cancellation of Paper feed System Console or paper drawer		Multi-copy key "7" • After the keys are pressed, turn the power switch OFF, then ON.	If there is a System Console or paper drawer malfunction, and the copier is needed, the System Console or paper drawer can be removed. **Note:** When the System Console or paper drawer is installed again, you have to reprogram the System Console or paper drawer. F5-22-1, and turn the power switch OFF, then ON.
Cancellation of copy density sensor read		Multi-copy key "8". • After the keys are pressed, turn the power switch OFF, then ON.	If the copy density sensor read function is cancelled, the copy image may become unstable. **Note:** When the copy density sensor read is input again, you have to reprogram the copy density sensor read F5-25-1, and turn the power switch OFF, then ON.
Cancellation of Duplex unit (FP-2080)		Multi-copy key "9". • After the keys are pressed, turn the power switch OFF, then ON.	If there is a duplex unit malfunction, and the copier is needed, the duplex unit can be removed. **Note:** When the duplex unit is installed again, you have to reprogram the duplex unit. F5-26-1, and turn the power switch OFF, then ON.

- **Service function**

Departmental counter read	All departmental counters	Press the "Access" key.
	Each departmental counter (Pass code memory condition)	Press the "Access" key repeatedly.
	Specific departmental counter	After input of pass code, press the "Access" key.
Departmental counter reset	All departmental counters and pass codes	Select F5-42-2 again.
	Each departmental counter	Refer to "2. Reset procedure for F7 mode".
	All departmental electronic counters	Press "2 Page-Copy" and "Clear/ Stop" keys while all deparmental electronic counters are displayed.
	Specific departmental electronic counter	Press "2 Page-Copy" and "Clear/ Stop" keys for specific departmental electronic counter display.
Service call indicator reset		Select F5-70-8 again.
Service call indicator and preventive maintenance counter reset		Refer to "2. Reset procedure for F7 mode."

2. Service mode procedure

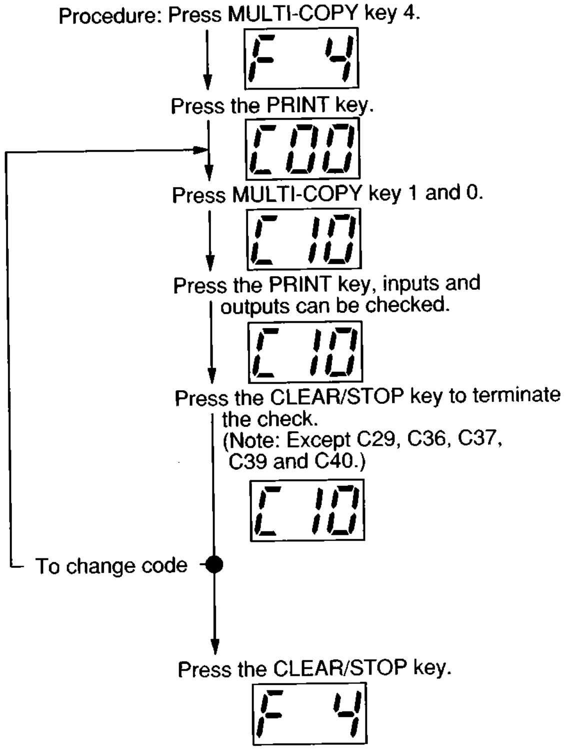
F1 appears in the "Digit" display when the service mode is first turned ON.

Mode	"Multi-Copy" key	Item	Function	Remarks
F1	1	Display check	When the "Print" key is pressed, all displays light.	It stops when the Clear/ Stop key is pressed.
F2	2	Single Sheet copying	1. One sheet is copied when the "Print" key is pressed.	1. For both F2 and F3 the total counter and electronic counter do not count up. 2. When in F3 press the "Clear/ top" key to stop the copy process. 3. In F2 and F3 with paper in the cassette the misfeed circuit is enabled. 4. No paper in cassette the misfeed circuit is disabled. 5. In both F2 and F3 the ADF and Sorter can operate.
			2. Duplex mode (1 sided original 2 sided copy or 2 sided original 2 sided copy) or Overlay mode. a. Select the "1 sided original 2 sided copy" or "2 sided original 2 sided copy" mode or overlay mode. b. One sheet is copied when the "Print" key is pressed. Then this sheet moves into the duplex unit tray and stops. c. "Print" key is pressed again. The second side is copied on, then fed to the copier exit tray and stops. d. Repeat procedures b) and c).	
			3. "Book original 2 sided copy" mode. a. Select the "Book original 2 sided copy" mode. b. One sheet is copied normally when the "Print" key is pressed, and stops. c. "Print" key is pressed again. One sheet is copied, then this copied sheet is fed into the duplex unit tray and stops. d. "Print" key is pressed again. The second side of one sheet is copied, fed to the copier exit tray and stops. e. Repeat procedures b) to d).	(Continued on next page.)

Mode	"Multi-Copy" key	Item	Function	Remarks
F2	2		4. "2 sided original 1 sided copy" mode. a. Select the "2 sided original 1 sided copy" mode. b. One sheet is copied normally when the "Print" key is pressed, and stops. c. Repeat item b).	
F3	3	Conti-nuous copying	1. Multi copying is initiated by pressing the "Print" key.	
			2. Duplex mode (1 sided original 2 sided copy or 2 sided original 2 sided copy) a. Select the "1 sided original 2 sided copy" or "2 sided original 2 sided copy" mode or overlay mode. b. 50 copies are made when the "Print" key is pressed. Then fed into the duplex unit tray and stops. c. "Print" key is pressed again. The second side is copied and then fed to the copier exit tray and stops. d. Repeat procedures b) and c).	
			3. "Book original 2 sided copy" mode. a. Select the "Book original 2 sided copy" mode. b. 50 sheets are copied normally when the "Print" key is pressed, and stops. c. "Print" key is pressed again. 50 sheets are copied, then copied sheets are fed into the duplex unit tray and stops. d. "Print" key is pressed again. The second sides are copied, then fed to the copier exit tray and stops. e. Repeat procedures b) to d).	
F3	3		4. "2 sided original 1 sided copy" mode. a. Select the "2 sided original 1 sided copy" mode. b. 50 sheets are copied normally when the "Print" key is pressed, and stops. c. Repeat item b).	

3. F4 mode Input/ Output check

Example: This code is “C10” optics cooling fan.



Procedure: Press MULTI-COPY key 4.

Press the PRINT key.

Press MULTI-COPY key 1 and 0.

Press the PRINT key, inputs and outputs can be checked.

Press the CLEAR/STOP key to terminate the check.
(Note: Except C29, C36, C37, C39 and C40.)

To change code

Press the CLEAR/STOP key.

1) Input check

Code No.	Function	Condition	Exposure indicator						
			☐ ←Light	☐	☐	○	☐	☐	☐ Dark→
00	Multi-sheet bypass paper detecting sensor	No paper in the multi-sheet bypass.	☐						
	System Console paper exit door (FP-2080)	Door closed.		☐					
	System Console or paper drawer paper feed door	Door closed.			☐				
	Multi-sheet bypass paper size detection	The LED position shown at the right turns on when the multi-sheet bypass paper guide and paper size detection sensor is moved.							
		A3							☐
		Foolscap						☐	
		A4				○			☐
		A4R				○		☐	
		A5				○		☐	☐
01	Sorter detection (FA-S270)	Sorter is installed.	☐						
02	Paper exit sensor	Paper is detected.		☐					
	Copier paper feed door	Door closed.			☐				
	Copier paper detecting sensor	Paper in the paper tray.				○			
	Copier paper tray size detection	It is normal when the LED positions shown at the right are lit.							
		A3					☐	☐	☐
		B4-FLS						☐	☐
		A4							☐
		A4R					☐		
		Invoice						☐	
03	Opitional 500/1000/2000 sheet paper drawer signal • Upper stage of System Console or paper drawer	Lifting plate is lowered.	☐						

Code No.	Function	Condition	Exposure indicator						
			☐	☐	☐	○	☐	☐	☐
			←Light						Dark→
04	Optional 250/500/1000/ 2000 sheet paper drawer registration sensor • Same as 03	Paper is detected.	☐						
	Optional 250/ 500/1000/ 2000 sheet paper drawer discrimination • Same as 03	1000/2000 sheet paper drawer is installed.		☐					
		250/500 sheet paper drawer is installed.			☐				
	Optional 250/ 500/1000/ 2000 sheet paper drawer paper detection sensor • Same as 03	Paper is detected.				○			
	Optional 250/500 sheet paper drawer paper tray size detection sensor. • Same as 03	It is normal when the LED positions shown at the right are lit.							
		A3					☐	☐	☐
		B4-FLS						☐	☐
		A4							☐
		A4R					☐		
		A5						☐	
	Optional 1000/2000 sheet paper drawer detection. • Same as 03	1000/2000 sheet paper drawer is detected.					☐		
	Optional 1000/2000 sheet paper drawer bottom sensor. • Same as 03	Bottom plate is not lowered.						☐	
	Optional 1000/2000 sheet paper drawer paper size detection. • Same as 03	A4 size							☐
05 (*1)	Optional 500/1000/2000 sheet paper drawer signal. • Middle stage of System Console	Lifting plate is lowered.	☐						

(*1) FP-2080

Code No.	Function	Condition	Exposure indicator						
			☐	☐	☐	○	☐	☐	☐
			←Light						Dark→
06 (*1)	Optional 250/500/1000/ 2000 sheet paper drawer registration sensor • Same as 05	Paper is detected.	☐						
	Optional 250/500/1000/ 2000 sheet paper drawer discrimination. • Same as 05	1000/2000 sheet paper drawer is installed.		☐					
		250/500 sheet paper drawer is installed.			☐				
	Optional 250/500/1000/ 2000 sheet paper drawer paper detecting sensor • Same as 05	Paper is detected.				○			
	Optional 250/500 sheet paper drawer paper tray size detection • Same as 05	It is normal when the LED positions shown at the right are lit.							
		A3					☐	☐	☐
		B4-FLS						☐	☐
		A4							☐
		A4R					☐		
		A5						☐	
	Optional 1000/2000 sheet paper drawer detection. • Same as 05	1000/2000 sheet paper drawer is detected.					☐		
	Optional 1000/2000 sheet paper drawer bottom sensor • Same as 05	Bottom plate is not lowered.						☐	
	Optional 1000/2000 sheet paper drawer paper size detection • Same as 05	A4 size							☐
07 (*1)	Optional 500/1000/2000 sheet paper drawer signal. • Lower stage of System Console	Lifting plate is lowered.	☐						

(*1) FP-2080

Code No.	Function	Condition	Exposure indicator						
			☐ ←Light	☐	☐	○	☐	☐	☐ Dark→
08 (*1)	Optional 250/500/1000/2000 sheet paper drawer registration sensor • Same as 07	Paper is detected.	☐						
	Optional 250/500/1000/2000 sheet paper drawer discrimination • Same as 07	1000/2000 sheet paper drawer is installed.		☐					
		250/500 sheet power drawer is installed.			☐				
	Optional 250/500/1000/2000 sheet paper drawer paper detection sensor • Same as 07	Paper is detected.				○			
	Optional 250/500 sheet paper drawer paper tray size detection • Same as 07	It is normal when the LED positions shown at the right are lit.							
		A3					☐	☐	☐
		B4-FLS						☐	☐
		A4							☐
		A4R					☐		
		A5						☐	
	Opitional 500/1000/2000 sheet paper drawer detection • Same as 07	1000/2000 sheet paper drawer is detected.					☐		
	Optional 1000/2000 sheet paper drawer bottom sensor • Same as 07	Bottom plate is not lowered.						☐	
	Optional 1000/2000 sheet paper drawer paper size detection • Same as 07	A4 size							☐
09	Not used	–							
10	Waste toner bottle full sensor	Toner is full.			☐				
11	Front cover	Cover closed.	☐						

(*1) FP-2080

Code No.	Function	Condition	Exposure indicator						
			☐ ←Light	☐	☐	○	☐	☐	☐ Dark→
12	Key counter (option)	Key counter is installed.	☐						
	Toner bottle position sensor	When toner bottle is not in the proper position.		☐					
13	Black toner level detection	Black toner is empty.			☐				
	Color toner level detection	Color toner is empty.	☐						
14	Copier paper pass sensor	Paper is not detected.			☐				
	Copier timing roller sensor	Paper is not detected.				○			
	Lens home position sensor	Lens unit in home position.					☐		
	Mirror home position sensor	Mirror unit in home position.						☐	
	Optics home position sensor	Optics unit in home position.							☐
15	High voltage leak (2) detection	High voltage leak (2) is not detected. (Normal)	☐						
	High voltage leak (1) detection	High voltage leak (1) is not detected. (Normal)		☐					
16	ADF original exit/ reverse sensor	When ADF is installed. Original is not detected.						☐	
	ADF registration sensor	When ADF is installed. Original is not detected.							☐
17	ADF open/ close detection	When ADF is installed. ADF is closed.						☐	
	ADF original exit cover	When ADF is installed. Cover is closed.				○			
	ADF original feed cover	When ADF is installed. Cover is closed.					☐		
18	ADF original size detection sensor	When ADF is installed. Original in the original tray.							
		A3						☐	
		B4					☐		↓
		Foolscap						☐	☐
		A4					☐		☐
		A4R					☐	☐	☐
	ADF original detection	When ADF is installed. Original is detected.				○			
19 to 57	Not used	—							

Code No.	Function	Condition	Exposure indicator						
			□	□	□	○	□	□	□
			←Light						Dark→
58 (*1)	Sorter paper feed sensor	Paper is not detected.	□						
	Sorter paper exit sensor	Paper is not detected.		□					
	Bin position sensor (1)	Bin position is not placed correctly.			□				
	Bin position sensor (2)	Bin position is top bin. (# 1 bin)				○			
	Cable safety switch	Cable is not loose.					□		
	Upper/ Lower limit switch	Bin is placed less than upper limit or more than lower limit.						□	
	Clock sensor	Clock sensor is turned OFF.							□
59 (*1)	Sorter door switch	Sorter is combined with copier.	□						
60 (*1)	Duplex unit sensor judgement (1) • When duplex unit is installed.	Paper exit sensor (B) Paper is detected.			□				
		Paper IN sensor Paper is detected.				○			
		Paper pass sensor (1) Paper is detected.					□		
		Paper pass sensor (2) Paper is detected.						□	
		Duplex unit registration sensor Paper is detected.							□
61 (*1)	Duplex unit sensor judgement (2) • When duplex unit is installed.	Paper detecting sensor Paper is detected.		□					
		Duplex unit is detected.			□				
		Paper width home position sensor • Paper guide (A) (for width) in home position.						□	
		Paper length home position sensor • Paper guide (B) (for length) in home position.							□
		Roller level sensor • Bottom plate is raised.				○			

(*1) FP-2080

2) Output check

Activate the door switch before executing output check.

Code	Item	Function	Remarks
19 (*1)	Optional 250/ 500 sheet paper drawer (Lower stage of System Console) paper feed roller clutch	When the "Print" key is pressed, CN18-11 and PGND are kept "ON". (24V is ON)	Multi meter or oscilloscope check • Press the "Clear/ Stop" key to reset.
20 (*1)	Optional 250/ 500 sheet paper drawer (Middle stage of System Console) paper feed roller clutch	When the "Print" key is pressed, CN18-15 and PGND are kept "ON". (+24V is ON)	
21	Optional 250/ 500 sheet paper drawer (Upper stage of System Console or paper drawer) paper feed roller clutch.	When the "Print" key is pressed, CN18-19 and PGND are kept "ON". (+24V is ON).	
22	Copier paper feed roller clutch	When the "Print" key is pressed, CN8-9 and PGND are kept "ON". (+24V is ON)	
23	Multi-sheet bypass clutch	When the "Print" key is pressed, CN8-7 and PGND are kept "ON". (+24V is ON)	
24 (*1)	Multi-sheet bypass solenoid	When the "Print" key is pressed, CN8-1 and PGND are kept "ON". (+24V is ON)	
25	Copier paper transport roller clutch or multi-sheet bypass clutch (FP-2080)	When the "Print" key is pressed, CN8-15 and PGND are kept "ON". (+24V is ON)	
26	Copier timing roller clutch	When the "Print" key is pressed, CN8-2 and PGND are kept "ON". (+24V is ON)	
27	Fuser lamp	When the "Print" key is pressed, the fuser lamp lights up until temperature reaches the predetermined point.	Visual check. • Press the "Clear/ Stop" key to reset.
28	Black/ Color developer unit	The black or color developer unit system mechanism starts when the "Print" key is pressed.	

(*1) FP-2080

Code	Item	Function	Remarks
29	Exposure lamp	The exposure lamp turns ON for 2 seconds when the "Print" key is pressed.	Visual check
30	Optics cooling fan	The fan energizes when the "Print" key is pressed.	Visual check • Press the "Clear/ Stop" key to reset.
31	Suction fan		
32	Fuser cooling fan (1)		
33	Not used (Factory only)	—	—
34	Cleaning wed solenoid	When the "Print" key is pressed, CN7-15 and PGND are kept "ON". (+24V is ON)	Multi meter or oscilloscope check. • Press the "Clear/ Stop" key to reset.
35	Auto original density solenoid	When the "Print" key is pressed, CN12-1 and PGND are kept "ON". (+24V is ON)	
36	Tortal counter	The total counter counts up when the "Print" key is pressed.	Visual check.
37	Key counter	The key counter counts up when the "Print" key is pressed.	
38	Sorter paper feed motor	The motor is energized when the "Print" key is pressed.	Visual check • Press the "Clear/ Stop" key to reset.
39	Sorter bin movement (up direction)	The #1 bin position or other bin position moves to #20 bin position.	Visual check.
40	Sorter bin movement (down direction)	The #20 bin position or other bin position moves to #1 bin position.	
41	System Console or paper drawer registration roller clutch	When the "Print" key is pressed, CN16-5 and PGND are kept "ON". +(24V is ON)	Multi meter or oscilloscope check. • Press the "Clear/ Stop" key to reset.
42	+24V ON	24V is generated when the "Print" key is pressed. **Note:** Connect meter between CN15-1 and CN15-2 on CPU P.C.B to check it.	Press the "Clear/ Stop" key to reset.

Code	Item	Function	Remarks
43 (*1)	Optional 500 sheet paper drawer (Lower stage of System Console) lifting plate motor	When the "Print" key is pressed, CN18-9 and PGND are kept "ON". (+24V is ON)	Multi meter or oscilloscope check. • Press the "Clear/ Stop" key to reset. • Output level ON: Approx. 0V OFF: Approx. 3V
44 (*1)	Optional 500 sheet paper drawer (Middle stage of System Console) lifting plate motor	When the "Print" key is pressed, CN18-13 and PGND are kept "ON". ((+24V is ON)	
45 (*1)	Optional 500 sheet paper drawer (Upper stage of System Console or paper drawer) lifting plate motor	When the "Print" key is pressed, CN18-17 and PGND are kept "ON". ((+24V is ON)	Multi meter or oscilloscope check. • Press the "Clear/ Stop" key to reset. • Output level ON: Approx. 0V OFF: Approx. 3V
46	System Console or paper drawer paper feed motor	When the "Print" key is pressed, CN16-3 and PGND are kept "ON". ((+24V is ON)	
47	ADF transport belt motor (forward rotation and high speed)	When the "Print" key is pressed, the transport belt rotates forward.	Visual check. • Press the "Clear/ Stop" key to reset.
48	ADF transport belt motor (reverse rotation and high speed)	When the "Print" key is pressed, the transport belt rotates in reverse.	
49	ADF original feed operation (1)	The original feed motor (forward rotation) and stopper solenoid are energized when the "Print" key is pressed.	
50	ADF wait solenoid	The solenoid is energized when the "Print" key is pressed.	
51	ADF original reverse solenoid		
52	ADF original reverse motor (high speed)	When the "Print" key is pressed, the motor rotates (high speed)	
53	ADF original feed motor (reverse rotation)	When the "Print" key is pressed, the motor rotates in reverse.	
54	ADF brake	The brake is energized, when the "Print" key is pressed.	
55	ADF LED display	The LED display turns ON when the "Print" key is pressed.	

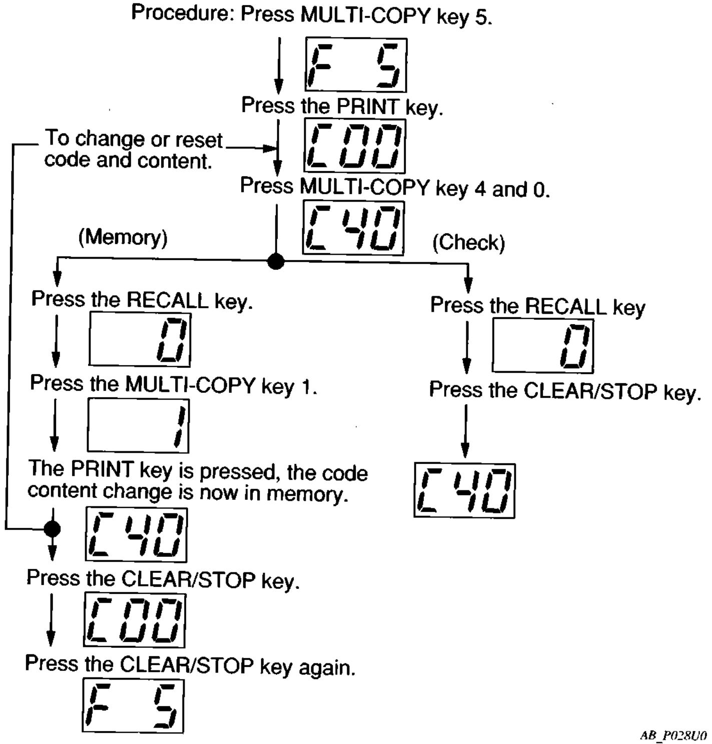
(*1) FP-2080

Code	Item	Function	Remarks
56	Not used.	—	Visual check. • Press the "Clear/ Stop" key to reset.
57 (*1)	System Console paper return solenoid	The solenoid is energized when the "Print" key is pressed.	
58 to 61	Not used.	—	
62 (*1)	Duplex unit drive motor and paper feed clutch (Paper feed direction)	The motor and clutch are energized when the "Print" key is pressed.	
63 (*1)	Duplex unit drive motor (Paper exit direction)	The motor is energized when the "Print" key is pressed.	
64 (*1)	Paper exit solenoid	The solenoid is energized when the "Print" key is pressed.	
65 (*1)	Duplex paper gate change solenoid		
66 (*1)	Duplex unit roller level motor	The motor is energized when the "Print" key is pressed.	
67 to 74	Not used.	—	—
75	ADF original feed operation (2)	The original feed is operated when the "Print" key is pressed.	Visual check. • Press the "Clear/ Stop" key to reset.
76	ADF original reverse motor (low speed)	The motor is energized when the "Print" key is pressed.	
77	ADF transport belt motor (low speed and reverse rotation)		
78	ADF stopper solenoid	The solenoid is energized when the "Print" key is pressed.	
79	Not used.	—	
80	Fuser cooling fan (2)	The fan energizes when the "print" key is pressed.	

(*1) FP-2080

4. F5 mode Copier function programming

Example: The code is "C40", the content is "1" (Double count) to change the code content to single count, press the "Recall"key.


Procedure: Press MULTI-COPY key 5.
F 5
Press the PRINT key.
To change or reset code and content.
C00
Press MULTI-COPY key 4 and 0.
(Memory)
C40
(Check)
Press the RECALL key.
0
Press the MULTI-COPY key 1.
1
The PRINT key is pressed, the code content change is now in memory.
C40
Press the CLEAR/STOP key.
C00
Press the CLEAR/STOP key again.
F 5
Press the RECALL key
0
Press the CLEAR/STOP key.
C40
AB_P028U0

	Code	Item	Function	(Factory Setting)
System	00	Country version	0: Japanese version 1: North American version 2: European version	2 **Note:** When it is adjusted, turn the power switch OFF, then ON.
	01	Frequency desired	0: 50Hz 1: 60Hz	0
	02	Auto reset timer	0: None 1: 1 minute 2: 2 minute	1
	03	Standby timer	0: No standby 1: Standby (2 minute) 2: Standby (4 minute)	0
	04 to 08	Not used.	—	—
	09 (*1)	Preventive maintenance count for duplex unit • When clearing the "Service call" indicator, select F7-34 and press the "Print" key.	0: Does not count up 1: Counts up	1
	10	Optics cooling fan control	0: Normal operation 1: Control mode (Fan operates when a predetermined amount of copies are made.)	1
	11	Copy reservation function	0: Not detecting 1: Detecting	1
	12 to 19	Not used.	—	—

(*1) FP-2080

	Code	Item	Function	(Factory Setting)
Optional machine	20	ADF	0: Cancellation of ADF 1: ADF installation automatically discriminated (When ADF signal cord is connected to copier CPU P.C.B, copier detects ADF automatically.)	1
	21	Sorter	0: Cancellation of sorter 1: Sorter installation automatically discriminated (When sorter signal cord is connected to copier CPU P.C.B, copier detects sorter automatically.)	1
	22	System Console or paper drawer	0: Cancellation of System Console or paper drawer 1: System Console or paper drawer installation automatically discriminated (When System Console or paper drawer signal cord is connected to copier CPU P.C.B, copier detects System Console or paper drawer automatically.)	1
	23	Not used.	—	—
	24	Exposure lamp voltage for measuring constant light quantity	0: Not detecting (OFF) 1: Detecting (ON)	1
	25	Copy density sensor read	0: Not detecting (OFF) 1: Deteceing(ON)	1 **Note:** When it is adjusted, turn the power switch OFF, then ON.

	Code	Item	Function	(Factory Setting)
Optional machine	26 (*1)	Duplex unit	0: Cancellation of duplex unit 1: Duplex unit installation automatically discramanated (When duplex unit signal cord is connected to copier CPU P.C.B, copier detects duplex unit automatically. **Note:** When F5-22 (System Console) is cancelled (or installed), the duplex unit is cancelled (or installed) automatically as well.	1
	27 (*1)	Total copy count • In case of a mis-feed in second side copy for two sided copy, copy number is/ not counted.	0: Does not count up 1: Count up	0
	28 (*1)	Total copy count • Checking double feed by comparison between in/ out copies.	0: Does not count up 1: Counts up	0
	29	Not used.	—	—
	30	Automatic ADF sensor adjustment	0: Not detecting=No automatic adjustment 1: Detecting=Automatic adjustment	1
	31	ADF swing back	0: Yes 1: No	0
	32 to 39	Not used.	—	—
Counter	40	Double count (Total counter, Key counter, and Electronic counter)	0: Single 1: A3 size 2: A3/B4 size	1
	41	Count up timing	0: At paper feed roller clutch (and sheet bypass solenoid for FP-2080) 1: At paper exit sensor	1
	42	Key counter and Departmental counter	0: Not installed 1: Key counter installed 2: Departmental counter	0

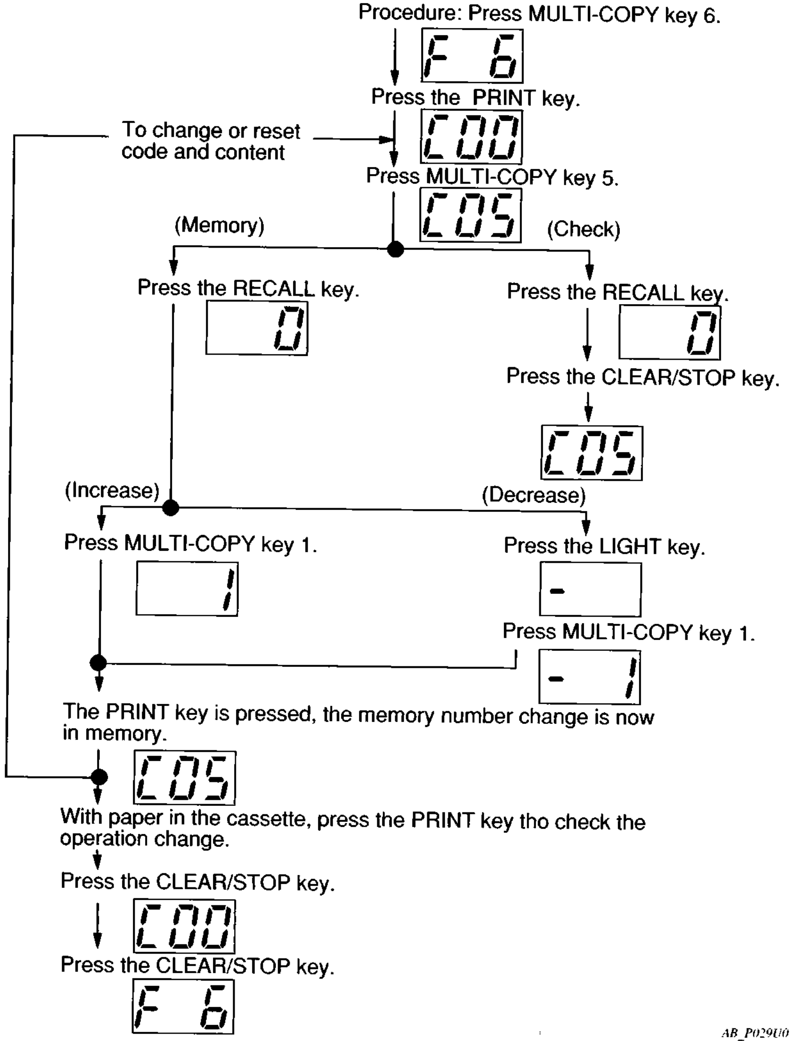
(*1) FP-2080

	Code	Item	Function	(Factory Setting)
Counter	43	Key counter count up timing	0: At paper feed roller clutch (and sheet bypass solenoid for FP-2080) 1: At paper exit sensor	0
	44 to 49	Not used.	—	—
Default	50	Auto original density (When power ON)	0: Not detecting 1: Auto mode priority 2: Document mode priority	1
	51 to 52	Not used.	—	—
	53	Auto shift (For one sided original two sided copy or two sided original one sided copy)	0: No auto shift 1: Auto shift	0
	54 to 56	Not used	–	–
	57	Multi size feed (ADF)	0: Unified copy paper size (Landscape original to Landscape copy) (Portrait original to Landscape copy) 1: Unified copy paper size (Landscape original to Landscape copy) (Portrait original to Portrait copy)	1
	58	Copier operation (After waste toner bottle is full)	0: Copier stops or copy cycle is inhibited. 1: Continuous copier operation.	0
	59	Copier operation (After toner bottle empty detection)	0: Copier stops or copy cycle is inhibited. 1: Continuous copier operation.	0
	60	Automatic cassette position selection	0: Not detecting 1: Detecting = When there is no paper in the cassette while the copy cycle, the cassette position of same size and direction selected automatically.	1
	61 to 69	Not used.	—	—

	Code	Item	Function	(Factory Setting)
Preventive maintenance	70	Preventive maintenance	0: No call 1: 1,500 copies 2: 2,500 copies 3: 5,000 copies 4: 10,000 copies 5: 15,000 copies 6: 20,000 copies 7: 30,000 copies 8: 60,000 copies 9: 120,000 copies.	8
	71 to 79	Not used.	—	—
Paper size	80	Paper size selection priority	0: A4 1: A4R 2: B4/FLS 3: A3 4: A5 5: A5	0
	81	Legal/ Foolscap size selec- tion (For European version)	0: Legal size 1: Foolscap (13" × 8") 2: Foolscap (13" × 8.5")	0
	83 to 89	Not used.	—	—

5. F6 mode Adjustment and programming

Example: The code "C05", the memory number is "0" (Registration timing) to change the memory number to adjust the registration timing, press the muliti-copy key.


Procedure: Press MULTI-COPY key 6.
F 6
Press the PRINT key.
To change or reset code and content
C00
Press MULTI-COPY key 5.
C05
(Memory)
(Check)
Press the RECALL key.
0
Press the RECALL key.
0
Press the CLEAR/STOP key.
C05
(Increase)
(Decrease)
Press MULTI-COPY key 1.
1
Press the LIGHT key.
-
Press MULTI-COPY key 1.
- 1
The PRINT key is pressed, the memory number change is now in memory.
C05
With paper in the cassette, press the PRINT key tho check the operation change.
Press the CLEAR/STOP key.
C00
Press the CLEAR/STOP key.
F 6

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Code	Item	Function	Remarks
00	100% selection (Ratio of vertical position and parallel position to the paper feed direction) (standard = 100.0%)	Adjustment from 99.1% to 100.9%.	Ratio can be adjusted by 0.1%. (–9 to +9)
01	Just 100% (Ratio of parallel position to the paper feed direction)	Adjustment of ratio for parallel position to the paper feed direction.	Ratio can be adjusted by 0.1%. (–9 to +9)
02	100% focus	Adjustment of focus.	(–50 to +50)
03	Just 100% ratio (Ratio of vertical position to the paper feed direction)	Adjustment of lens stop position by lens home position. (+): Enlargement direction. (–): Reduction direction.	(–50 to +50)
04	Original registration detecting timing (Reduction and Enlargement copying)	Adjustment of original registration detection timing when the reduction and enlargement is copied. (+): Registration detection timing is delayed. (–): Registration detection timing is advanced.	Detection timing can be adjusted by 0.625mm (–64 60 +63) for FP-1680, 0.125mm (–32 to +31) for FP-2080 • If you adjust the content of 02 in F8 mode, the content of 04 in F6 mode is automatically changed from the factory setting.
05	Copy paper registration detection timing	After 04 is adjusted, delay time is adjusted from timing roller clutch ON. (+): Paper feed timing is delayed. (–): Paper feed timing is advanced.	Timing can be adjusted by 0.5mm. (–36 to +9) • If you adjust the content of 02 in F8 mode, the content of 05 in F6 mode is automatically changed from the factory setting.
06	LED array synchronized timer for trimming function	After 04 is adjusted, synchronized timer is adjusted.	Timer can be adjusted by 0.5mm. (–25 to +9)
07	Registration void of image (LED array synchronized timer)	After 05 and 06 are adjusted, registration void is adjusted.	Registration void timer can be adjusted by 0.5mm. (0 to +99)
08	Trail edge timing of image (Reduction)	After 06 is adjusted, black line is adjusted.	Trail edge can be adjusted by 0.5mm. (–9 to +9)
09	Trail edge timing of image (Enlargement)		

Code	Item	Function	Remarks
10	Not used.	—	—
11	Exposure standard (standard = 127Vrms)	Adjustment of overall exposure standard.	Exposure can be adjusted by 0.4V. (–99 to +99)
12	Photo mode exposure voltage change (standard = –24V for FP-2080, –18.4V for FP-1680)	Adjustment of Photo mode exposure voltage	Exposure can be adjusted by 0.8V. (-9 to +9)
13	Zoom exposure (Reduction) (standard = +4.7V)	In reduction mode, the exposure voltage is adjusted in proportion to the difference between the reduction ratio and 100% ratio.	Exposure can be adjusted by 0.4V. (50%) (–9 to +9)
14	Zoom exposure (Enlargemant) (standard = +5.4V)	In enlargement mode, the exposure voltage is adjusted in proportion to the difference between the enlargement ratio and 100% ratio.	Exposure can be adjusted by 0.4V. (200%) (–9 to +9)
15	Exposure voltage correction for measuring the constant light voltage	The exposure lamp voltage for measuring the light volume is corrected according to the output from the auto original density sensor.	Voltage can be adjusted by 0.4V. (–99 to +74) • If you adjust the content of 03 in F8 mode, the content of 15 in F6 mode is automatically set.
16	Constant light volume exposure lamp voltage correction	When the power is switched ON, the 15 exposure lamp voltage is input to the auto original density sensor. If the auto original density sensor detection value differs from the standard density, the exposure lamp voltage correction is set. When a copy is made, this correction voltage is added.	Voltage can be adjusted by 0.4V. (–99 to +99) • If you adjusted the content of 03 in F8 mode, the content of 16 in F6 mode is automatically set to "0"
17	Grid stadard voltage (standard = – 710V)	Adjustment of grid standard voltage.	Voltage can be adjusted by approx. -8.3V. (–44 to +19)
18	Photo mode grid voltage (standard = –560V)	Adjustment of photo mode grid voltage.	Voltage can be adjusted by approx. -8.3V. (–27 to +50)

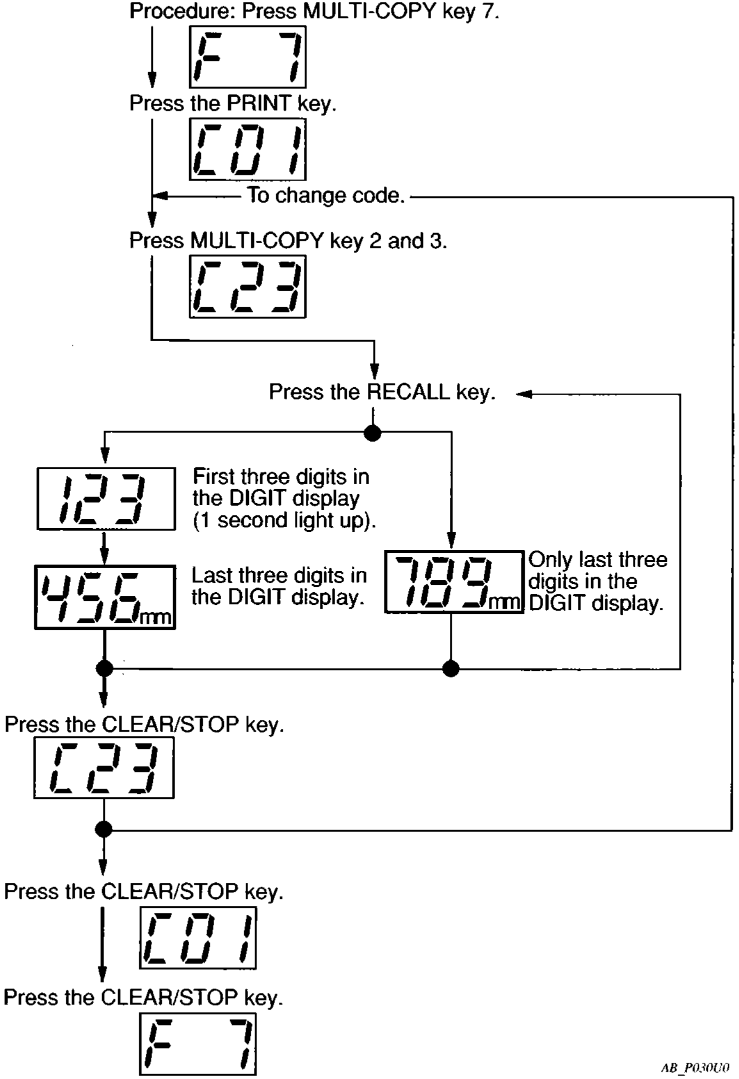
Code	Item	Function	Remarks
19	Bias standard voltage (standard = –250V)	Adjustment of bias standard voltage.	Voltage can be adjusted by approx. –9.2V. (–21 to +30)
20	Drum rank sensitivity	This adjustment should be done when a new drum is installed in the drum unit.	Check the drum rank number on the drum flange (front).
21	Toner density sensor (Black) gain voltage (standard = 7.5V)	Adjustment of toner density sensor gain voltage. (Factory use only)	This adjustment should not be adjusted. • If you adjust the content of F8-09, the content of F6-21 to 25 will automatically changed from the original factory setting.
22	Toner density sensor (Red) gain voltage (standard = 8V)		
23	Not used		
24	Toner density sensor (Blue) gain voltage (standard = 8V)		
25	Not used		
26	Toner density sensor (Black) judgment voltage level (standard = 2.5V)	Adjustment of toner supply starting judgment voltage level. (Factory use only)	This adjustment should not be adjusted. • f you adjust the content of F8-09, the content of F6-26 to 30 will automatically changed from the original factory settings.
27	Toner density sensor (Red) judgment voltage level (standard = 2.5V)		
28	Not used		
29	Toner density sensor (Blue)judgment voltage level (standard = 2.5V)		
30	Not used		
31	Fuser temperature	Adjustment of fuser temperature. (–): Temperature Lowers. (+): Temperature raises.	Termperature can be adjusted by approx. 0.7° (–15 to +15)

Code	Item	Function	Remarks
32	Original density light peak of auto original density level	The level is adjusted in proportion to the ratio between the light peak level and standard level.	The level can be adjusted by 1%. (–99 to +99)
33	Original density average of auto original density level	The level is adjusted in proportion to the ratio between the average level and standard level.	
34	Original density (light/ dark) contrast of au to original density	Adjustment of divide the difference between the maximam and the minimum of the original density by standard level of original density.	
35	Not used.	—	—
36	Registration of original for the ADF (when one-side original feeding)	Adjustment of registration timing.	Registration timing can be adjusted by 1.16mm. (–32 to +32)
37	Registration of original for the ADF (when two-sided original feeding or original is reversed)		
38	Image density (dark level) judgment standard voltage	Adjustment of image density (dark level) judgment standard voltage.	Voltage can be adjusted by approx. 19.5mV. (–99 to +99)
39	Exposure lamp voltage of initial copy density • Before this adjustment, "F5-25" must be set to "0". • After this adjustment, "F5-25" must be set to previous setting number.	Adjustment of exposure lamp voltage of initial copy density.	Voltage can be adjusted by approx. 0.2V. (–99 to +99)
40	Grid voltage of initial copy density • Before this adjustment, "F5-25" must be set to "0". • After this adjustment, "F5-25" must be set to previous setting number.	Adjustment of grid voltage of initial copy density.	Voltage can be adjusted by approx. 10V. (–30 to +30)

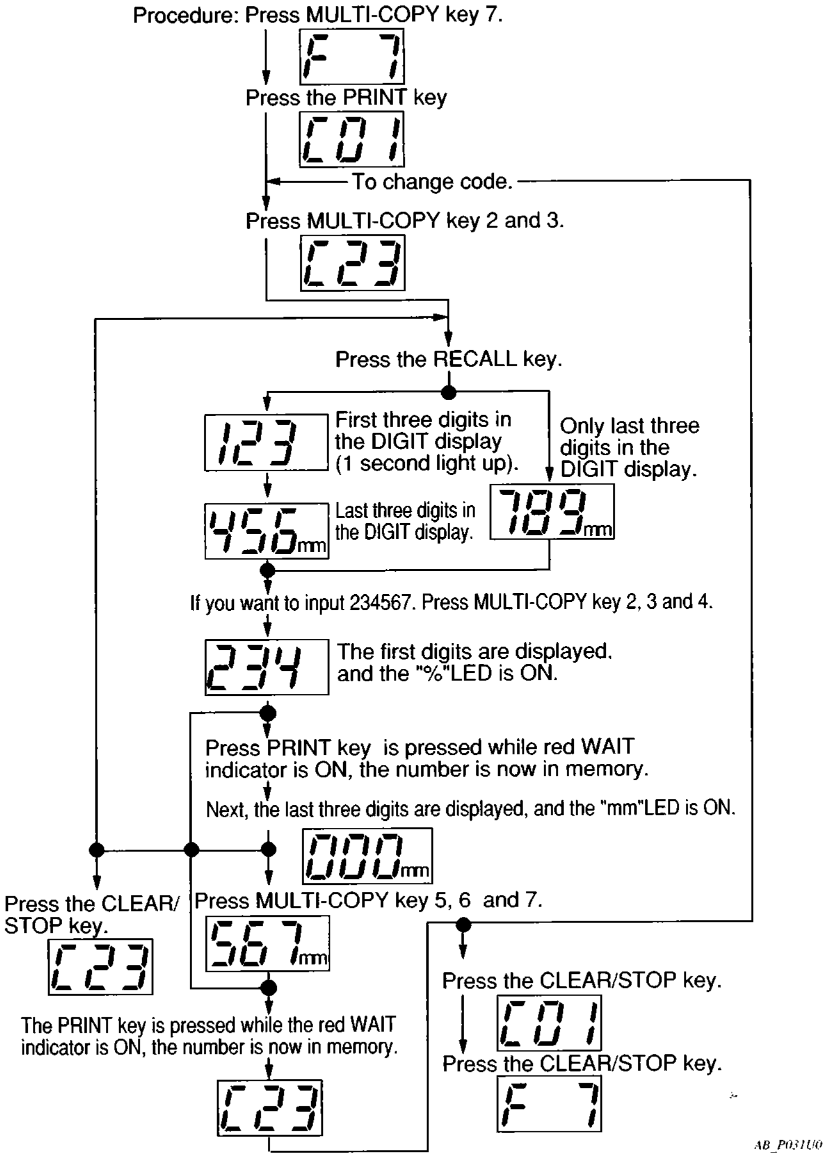
Code	Item	Function	Remarks
41	Paper loop (Copier cassette)	(Factory use only) This mode is used to adjust the length of the loop formed before the copier timing roller. (–): Loop length decreased (+): Loop length increased	This adjustment should not be adjusted. Loop can be adjusted by 2.5ms. (–99 to +99)
42	Paper loop (Sheet by-pass)		
43 to 51	Not used.	—	—
52	Reduction mode focus	After 02 is adjusted, when the reduction mode is not in focus, this is adjusted.	(–9 to +9)
53	Enlargement mode focus	After 02 is adjusted, when the enlargement mode is not in focus, this is adjusted.	
54	Registration void of image (During use with ADF=No swing back condition)	Adjustment of registration void.	Registration void can be adjusted by 0.5mm (0 to +99)
55	Paper loop (System console or paper darwer)	(Factory use only) This mode is used to adjust the length of the loop formed before the copier timing roller. (–): Loop length decreased (+): Loop length increased	This adjustment should not be adjusted. Loop can be adjusted by 2.5ms. (–99 to +99)

6. F7 mode Electronic counter

1. Read procedure (Example: Code No.23 Black color total count)


Procedure: Press MULTI-COPY key 7.
F 7
Press the PRINT key.
C01
To change code.
Press MULTI-COPY key 2 and 3.
C23
Press the RECALL key.
123
First three digits in the DIGIT display (1 second light up).
456mm
Last three digits in the DIGIT display.
789mm
Only last three digits in the DIGIT display.
Press the CLEAR/STOP key.
C23
Press the CLEAR/STOP key.
C01
Press the CLEAR/STOP key.
F 7
AB_P030U0

2. Write procedure (Example: Code No.23 Black color total count)


Procedure: Press MULTI-COPY key 7.
F 7
Press the PRINT key
C01
To change code.
Press MULTI-COPY key 2 and 3.
C23
Press the RECALL key.
123
First three digits in the DIGIT display (1 second light up).
Only last three digits in the DIGIT display.
456mm
Last three digits in the DIGIT display.
789mm
If you want to input 234567. Press MULTI-COPY key 2, 3 and 4.
234
The first digits are displayed. and the "%"LED is ON.
Press PRINT key is pressed while red WAIT indicator is ON, the number is now in memory.
Next, the last three digits are displayed, and the "mm"LED is ON.
000mm
Press the CLEAR/ STOP key.
C23
Press MULTI-COPY key 5, 6 and 7.
567mm
The PRINT key is pressed while the red WAIT indicator is ON, the number is now in memory.
C23
Press the CLEAR/STOP key.
C01
Press the CLEAR/STOP key.
F 7
AB_P031U0

Code	Item	Function	Remarks
01 to 20	Departmental count	Total count of departmental copies counts up	—
21	Total count	Total count of all copies.	—
22	Preventive maintenance total count	PM count of all copies.	When the service call indicator turns ON, the PM count is cleared.
23	Black color total count	Total count of copies made for black developer.	To check the amount of copies made on the developer unit in anticipation of a 60,000 copy PM.
24	Red color total count	Total count of copies made for red developer	
25	Not used	–	
26	Blue color total count	Total count of copies made for blue developer.	
27	Not used	–	
28	Color total count	Total count of red, brown, blue and green colors.	—
29 to 32	Not used.	—	
33	ADF original feed total count	Total count of originals fed.	
34 (*1)	Duplex unit copy total count	Total count of duplex unit copies.	
35	Multi sheet by-pass count	Total count of multi sheet by-pass originals fed.	
36	Copier paper tray count	Total count of copies re ceived in paper tray.	
37	Upper stage of System Console or paper drawer count	Total count of upper stage.	When the duplex unit is installed to the Upper stage of System Console, this code No. 37 does not count up.
38 (*1)	Middle stage of System Console count	Total count of middle stage.	—
39 (*1)	Lower stage of System Console count	Total count of lower stage.	

(*1) FP-2080

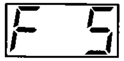
Code	Item	Function	Remarks
40 to 50	Not used.	—	—
51 to 60	Departmental count	Total count of departmental copies counts up.	
61 to 98	Not used	—	
99	Clear all counts	All counters are cleared.	To clear the count, press the "Print" key.

3. Setting the departmental counter

Set the departmental mode to check the amount of copies made of up to thirty departments by registering the pass code.

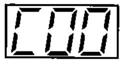
[1] To switch to the departmental counter function.

1) Set the copier to the service mode and press "Multi-Copy" key "5".



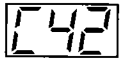
AB_P032U0

2) Press the "Print" key.



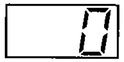
AB_P033U0

3) Press "Multi-Copy" key "4" and "2".



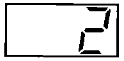
AB_P034U0

4) Press the "Recall" key.



AB_P035U0

5) Press "Multi-Copy" key "2".



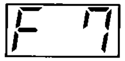
AB_P036U0

6) Press the "Print" key to cancel switching function.
7) After installation, enter "2" on the service mode table F5-42 that is attached to the inner cover (Middle).

[2] Registering the pass codes

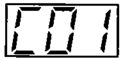
Register the optional pass code (Three-digit) to department code (any of 01 to 20 and 51 to 60)

1) Switch to service mode and press "Multi-Copy" key "7".



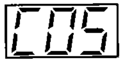
AB_P037U0

2) Press the "Access" key.



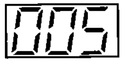
AB_P038U0

3) Use "Multi-Copy" keys to enter department code no.
For ex. Press "0" and "5" to enter department code no. "5".



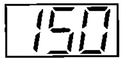
AB_P039U0

4) Press "Recall" key and the pass code will appear in the display.



AB_P040U0

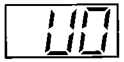
5) Enter the pass code by "Multi-Copy" keys.
For ex. When entering 150, press "1", "5" and "0".



AB_P041U0

* If entry is wrong, press the "Clear/ Stop" key and "---" will appear in the display and enter again.

6) Press the "Print" key to register the pass code.
   * If the entered pass code is already set, the "---" will appear in the display. Change the pass code and enter again.
7) Press the "Paper Tray/ Paper Size", "Multi-Copy" "3", and "Clear/ Stop" keys simultaneously to cancel the service mode.



AB_P042U0

[3] Changing the pass code

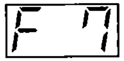
When changing the pass code, follow the procedure shown below.

1) Enter the pass code to be changed at [2] Registering the pass code step 5) and press the "Print" key.

[4] Delete the unnecessary pass code

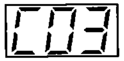
Delete the unnecessary pass code to protect against improper use.

1) Switch to service mode.



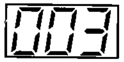
AB_P037U0

2) Press the "Access" key and enter the unnecessary departmental code by "Multi-Copy" keys.
For ex. Departmental code C03 is unnecessary, press "0" and "3".



AB_P043U0

3) Press "Recall" key.



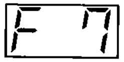
AB_P044U0

4) Press the "Reset" key. Confirm the pass code to be deleted and the "---" will appear in the display.
5) Press the "Print" key to delete the pass code.
   * Unnecesasry counter value will remain unless it is cleared.

[5] Confirm the pass code

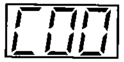
When confirming the pass code registered to the departmental counter mode, follow the next procedure.

1) Set the copier to the service mode and press "Multi-Copy" key "7".



AB_P037U0

2) Press the "Access" key. The pass code will be displayed.

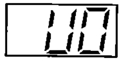


AB_P033U0

3) Use the "Multi-Copy" keys to enter departmetnal code no.
4) Press the "Recall" key and the pass code will appear in the display.

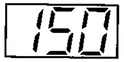
[6] Copying at departmental counter mode

When power is turned ON or just reset ("Reset" key ON or auto reset), wait for a while and enter the pass code to copy.



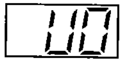
AB_P042U0

1) Enter the pass code by "Multi-Copy" keys.
For ex. When entering 150, press "1", "5" and "0".



AB_P041U0

* If the entered pass code is not registered, display of the pass code will be deleted and display of copy no. remains U0. Confirm the pass code and enter again.

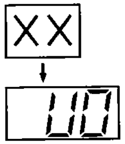


AB_P042U0

[7] When returning to the pass code entry condition

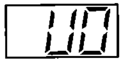
(Wait to enter the pass code.)
In departmental counter mode, wait to enter the pass code after copying. Switch to the pass code entry mode according to the following procedure.

1) Just after copying
   Press the "Reset" key once or twice.
   (X shows copy no.)



AB_P045U0

2) During auto reset mode
   One min. setting: After one min.
   Two min. setting: After two min.



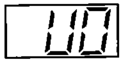
AB_P042U0

3) Without auto reset function
   Return after one min.

[8] Recalling departmental counter

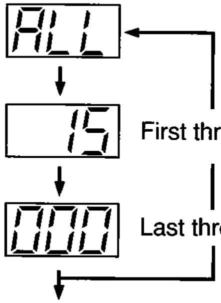
(Calculation function)
Total no. of copies (Total no. of 01 to 20 and 51 to 60) and no. of copies for all departments memorized by departmental counter can be recalled. Press the "Reset" key when returing to the pass code entry condition during display.

1) Recall all departments.



AB_P042U0

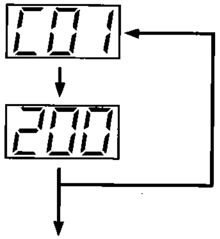
Press the "Access" key at the pass code entry condition.
For ex. 15000


ALL
15
000
(Repeat 5 times.)
First three digits.
Last three digits.

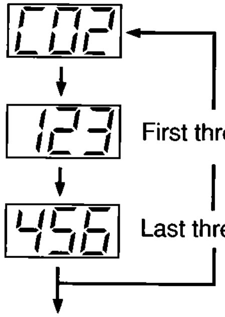
After repeat 5 times, next departmental code will appear in the display.

* Display no. shows the total amount of pass code registered departments.

2) Recalling each department
   Recall No. 01 to 20 and 51 to 60 in order by pressing the "Access" key for each department.
   For ex. No. of (01) is 200.


C01
200
(Repeat 5 times.)

- After repeating 5 times or pressing the ACCESS key
  For ex. No. of (02) is 123456.

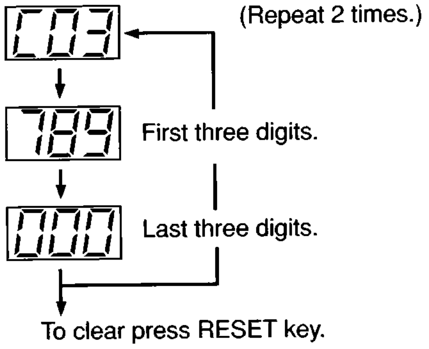

C02
123
456
(Repeat 5 times.)
First three digits.
Last three digits.

To clear press RESET key.

- * Only pass code registered departments will be recalled. Others will be skipped.

3) Recalling specified departments
   Press the "Access" key after entry of pass codes for specified departments.

   For ex. No. of (03) is 789000.


C03
(Repeat 2 times.)
789
First three digits.
000
Last three digits.
To clear press RESET key.

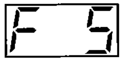
AB_P048U0

[9] Clearing departmental counter (After the total no. of copies is calculated)

1) Clearing departmental counter for all departments
   Press "2 Page Copy" and "Clear/ Stop" keys simultaneously during display of specified departmental counter.

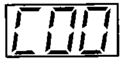
[10] Clearing departmental counter value and pass codes for all departments

1) Set the copier to the service mode F5.



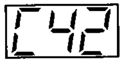
AB_P032U0

2) Press the "PRINT" key.



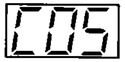
AB_P033U0

3) Press the "Multi-Copy" keys "4" and "2".



AB_P034U0

4) Press the "Recall" key, then press "Multi-Copy" key "2".

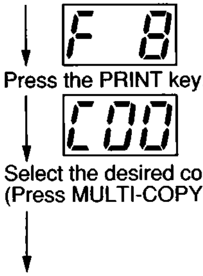


AB_P039U0

5) Press the "Print" key to clear all counter values and pass codes.
6) Cancel the service mode.

7. F8 mode Copier operation adjustment

Procedure: Press MULTI-COPY key 8.



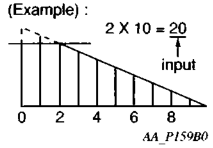
Press the PRINT key.

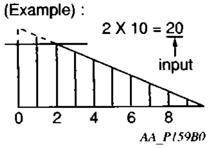
Select the desired code.
(Press MULTI-COPY key).

Adjustment or check.

AB_P049U0

Code	Item	Function	Remarks
00	Exposure lamp replacement	When replacing the exposure lamp, this function moves the lamp to a position (approx. 450mm from the optics home position) where it can be replaced. **Procedure:** a) Press the "Print" key. This causes the optical System to move toward the right. b) To return the optical System to the optics home position, press the "Clear/ Stop" key.	—

Code	Item	Function	Remarks
01	Original registration adjustment copy	This function automatically makes six copies for checking the original registration, consisting of three 100% copies and three 200% copies. **Procedure:** a) Position Panasonic Test chart-54 on the platen glass so its registration mark can be copied. b) Press the "Print" key.	—
02	Measurement input for adjusting the original registration	This function measures the registration that was copied using "01". The original registration is corrected by input of the resulting measured value. **Procedure:** a) Press the "Recall" key. b) Measure the registration on the three 200% copies that were made using "01". c) Multiply the average measured value obtained from these three copies by 10, then input the product using the "Multi-Copy" key.  (Example) : 2 X 10 = 20 input 0 2 4 6 8 AA_P159B0 d) Next, press the "Print" key. e) Measure the registration on the three 100% copies that were made using "01".	1. This adjustment may cause the factory setting of F6-04 to change, so check the F6-04 setting once more. If it has changed, transfer the revised value to the memory sheet. 2. After completing this adjustment, check F6- 05 once more.

Code	Item	Function	Remarks
		f) Multiply the average measured value obtained from these three copies by 10, then input the product using the "Multi-Copy" key. (Example) :  g) Next, press the "Print" key. At this time, the registration is calculated so the registration of both the 200% copy and 100% copy matches, then the resulting registration is memorized.	
03	Exposure lamp voltage for measuring constant light quantity • Perform this adjustment after replacing the auto original density sensor.	This function automatically adjusts the exposure lamp voltage for measuring constant light quantity. **Procedure:** a) Pressing the "Print" key automatically adjusts the exposure lamp voltage.	1. This adjustment may cause the factory setting of F6-15 and 16 to change, so check F6-15 and 16 settings once more. If they have changed, transfer the revised values to the memory sheet.
05	Copy density sensor control adjustment	Factory use only.	Do not change this adjustment.

Code	Item	Function	Remarks
06	Machine error and Paper jam read (This function checks the content of machine error and paper jam)	Each time the "Recall" key is pressed, any machine error or paper jam codes stored in memory are displayed, beginning with the code stored first. • If neither codes are found memory, "0" is displayed. • A maximum of 30 codes are displayed, followed by the 06 display.	1.Machine error • A machine error code is indicated by an alternating display of "EX" and "XX". 2.Paper jam • A paper jam code is indicated by "JXX". **Note:** For a list of the paper jam code numbers, see "2. Paper jam" starting on the page 6-50.
07	Machine error and Paper jam code read clear	This function clears all of the codes read using function 06 from memory. Procedure: a) Press the "Recall" key. b) Press "Multi-Copy" key "0". c) Press the "Print" key. This clears all of the machine error and paper jam codes stored in memory.	—
08	Lock operation of mirror unit and lens unit	This function moves the mirror and lens units into a locked position for transporting the copier. **Note:** When the mirror and lens units are locked, "0" will appear in the "Digit" display. When any digit key is pressed, the key input won't be accepted.	The lock condition is automatically reset when the "Power switch" is turned ON.

Code	Item	Function	Remarks
09	Automatic gain adjustment of toner density sensor • This adjustment must always be performed when replacing new developer (Black, Red, Blue).	This function automatically sets the gain voltage and judgment level of the toner density sensor. **Procedure:** a) Load the new developer into the developer unit. b) When the "Print" key is pressed, the voltage and judgment level are automatically set.	Unit will run for approximately 2 minutes.

6.2 Self-diagnostics/ Machine malfunctions

The self-diagnostic functions detect troubles in important components of the copier. When any trouble occurs, the copier is stopped.

1. User error

Eroor code	Item	Cause/ Check
U0	Key counter failure (option) or Total counter failure	1. When the F5-42-1 is not input. 2. When the key counter is not inserted. 3. When the key counter is not inserted correctly. 4. CN6-22, 24 of CPU PCB contact is defective. 5. When the total counter connector is not inserted correctly. 6. CN6-2, 4 of CPU PCB contact is defective. 7. CPU PCB is defective
U1	Front cover failure	1. When the front cover is open. 2. When the door open/ close detecting sensor is malfunctioning. 3. CN7-14, 16, 18 of CPU PCB and door open/ close detecting sensor contact is defective. 4. CPU PCB is defective.
U4	Sorter failure (option) • Sorter won't close securely.	1. When the sorter connector is not inserted correctly. 2. When the sorter is not installed correctly. 3. Sorter door switch is not actuated. 4. Sorter is open. 5. When the sorter open/ close detecting sensor is defective. 6. When the sorter has a paper jam. 7. Sorter CPU PCB is defective. 8. Copier CPU PCB is defective.
U5 (*1)	Duplex unit failure	1. When the duplex unit is open. 2. When duplex unit open/ close detecting sensor is malfunctioning. 3. CNAD of duplex unit and CN19 of copier CPU PCB contact is defective. 4. When the duplex unit is malfunctioning. 5. Duplex unit driver PCB is defective. 6. Copier CPU PCB is defective.

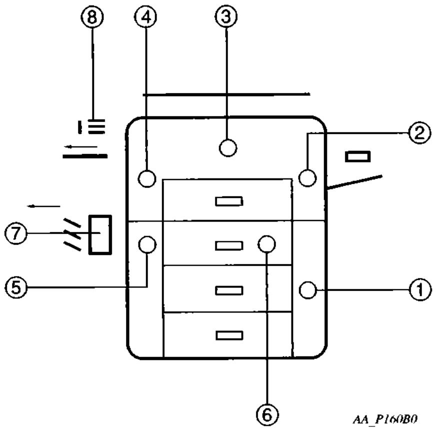
(*1) FP-2080

Eroor code	Item	Cause/ Check
U6	System Console or paper drawer paper feed door and copier paper feed door failure	1. When the copier paper feed door is open. 2. When the System Console or paper drawer paper feed door is open. 3. Copier paper feed door sensor is defective. 4. CN8-24, 26, 28 of CPU PCB and copier paper feed door sensor contact is defective. 5. System Console or paper drawer paper feed door sensor is defective. 6. CN16-7, 9, 10 of CPU PCB and CN611-4, 2, 1 of System Console or paper drawer PCB contac is defective. 7. CN614-1, 2, 3 of System Console or paper drawer P.C.B and System Console or paper drawer door sensor contact is defective. 8. System Console or paper drawer PCB is defective. 9. Copier CPU PCB is defective.
U10	ADF failure	1. When the original is placed in the original tray, the ADF is open. 2. When the original is placed in the original tray, the ADF original feed or original exit cover is open. 3. When the ADF is malfunctioning.
U11	Sorter copy paper removal **Note:** When clearing U11, all paper is removed from bins.	1. When the stapler mode is selected, the copies are placed in the bin. 2. When the ADF is used and stapler mode is selected, the bin receives more than 25 copies or 1 copy. 3. When the ADF is used and stapler mode is selected, the bin receives different copy size paper which is unsuitable for stapler use. 4. When the ADF is used and stapler mode is selected, the bin receives double feed from duplex unit.
U12	Sorter with stapler	1. When the stapler mode is selected, and a staple is not inserted or stapler is open.
U13	Toner level detection	1. When the toner bottle is empty. 2. CN6-10, 12, 14 of CPU PCB and toner level detecting sensor contact is defective. 3. Toner level detecting sensor is defective. 4. Toner supply mechanism is malfunctioning. 5. CPU PCB is defective.

Eroor code	Item	Cause/ Check
U14	waste toner bottle full	1. When the waste toner bottle is full. 2. Waste toner bottle sensor is dirty. 3. CN3-10, 12, 14 of CPU PCB and waste toner bottle full sensor contact is defective. 4. Waste toner bottle full sensor is defective. 5. CPU PCB is defective.
U15	Sheet bypass paper removal **Note:** When clearing U15, the paper is removed from sheet bypass.	1. When the cassette position is selected, the paper is replaced in the sheet bypass.
oF	If too many copies in bin or too many bins selected. • Remove copies and press the "Sorter mode select" key on the special effects panel of copier to reset.	1. Malfunction in the copier CPU PCB. 2. When the sorter is malfunctioning.
0	Sandby • The "Digit" display indicates "0" and the other displays are turned • When clearing the "Stand-by" mode, press any digit key.	1. When copying is completed after the lapse of 2 minutes (F5-03-1 input), or 4 minutes (F5-03-2 input), "0" is indicated.

2. Paper jam

- The machine System will detect paper jams in the copier. When a paper jam occurs the copier will stop.
- Paper jam indicates the "Paper jam" and "Paper jam position" in the "Communication Monitor" display.


⑧
④
③
②
⑦
⑤
①
⑥
AA_P160B0

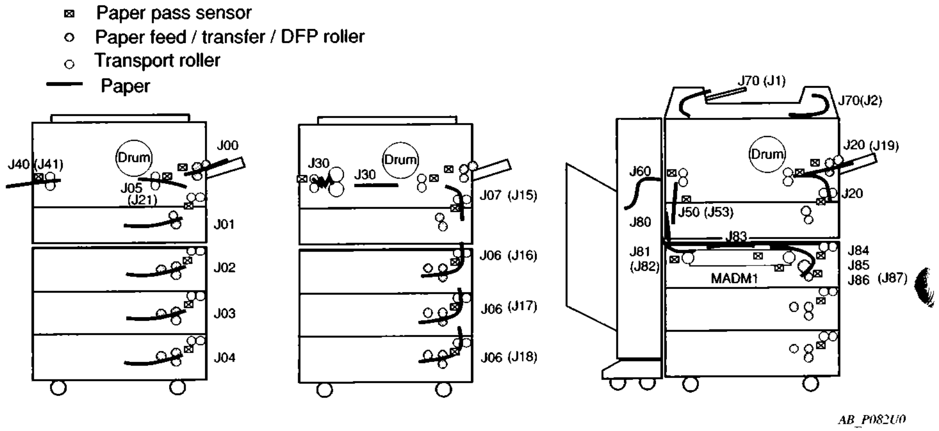

⊠ Paper pass sensor
○ Paper feed / transfer / DFP roller
○ Transport roller
— Paper
J40 (J41)
Drum
J05
(J21)
J00
J01
J02
J03
J04
J30
J30
Drum
J07 (J15)
J06 (J16)
J06 (J17)
J06 (J18)
J70 (J1)
J70(J2)
Drum
J20 (J19)
J20
J60
J50 (J53)
J80
J83
J81
(J82)
MADM1
J84
J85
J86 (J87)
AB_P082U0

Figure 6-50-1

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
①	Paper jam (System Console or paper drawer) (Upper stage of System Console or paper drawer.) • When the paper drawer registration sensor does not detect paper within a predetermined time after the paper drawer paper feed roller starts rotating.	1. Paper drawer bottom plate lifting pressure is weak. 2. Paper feed roller is worn or dirty. 3. Paper transfer roller is worn or dirty. 4. Foreign material is inside of paper feed section. 5. Drive mechanism of paper feed section is defective. 6. Registration sensor is defective. 7. Paper feed roller clutch is defective. 8. Registration sensor lead wire is shorted or broken. 9. Paper feed roller clutch lead wire is shorted or broken. 10. CN18 of CPU PCB and CN641 of the respective drawer driver PCB is shorted or broken. 11. The respective drawer driver PCB is defective. 12. CPU PCB is defective.	J02
① and/ or ⑥	(When the duplex unit is installed to the Upper stage of System Console.) • When the System Console registration sensor does not detect paper within a predetermined time after the duplex unit paper feed roller starts rotating.		
① and/or ②	(Middle stage of System Console.) • Same as Upper stage condition.		J03
	(Lower stage of System Console.) • Same as Upper stage condition.		J04
	(Upper stage of System Console or paper drawer.) • When the trail edge of the paper is not detected within a predetermined time after the paper drawer registration sensor detects the lead edge of the paper.		J06
	(Middle stage of the System Console.) • Same as Upper stage condition.		

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
① and/or ②	(Lower stage of System Console.) • Same as Upper stage condition.		J06
①	(Upper stage of System Console or paper drawer.) • When the paper drawer registration sensor detects paper when the power switch is turned ON.		J16
	(Middle stage of the System Console.) • Same as Upper stage condition.		J17
	(Lower stage of the System Console.) • Same as Upper stage condition.		J18
②	Paper jam (Multi-sheet by-pass, Copier paper tray, System Console or paper drawer) • When the timing roller sensor does not detect paper within a predetermined time after sheet bypass paper feed starts rotating.	1. Sheet bypass paper transfer roller is worn or dirty. 2. Sheet bypass paper feed roller is worn or dirty. 3. Drive mechanism of sheet bypass paper feed section is defective. 4. Sheet bypass solenoid is defective. 5. Sheet bypass clutch is defective. 6. Sheet bypass solenoid lead wire is shorted or broken.	J00
	• When the paper pass sensor does not detect paper within a predetermined time after paper feed roller starts rotating.		J01

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
②,③ and/or ④	• When the trail edge of the paper is not detected within a predetermined time after the paper pass sensor detects the lead edge of the paper.	7. Sheet bypass clutch lead wire is shorted or broken. 8. Copier paper tray paper feed roller is worn or dirty. 9. Foreign material is inside of paper feed section. 10. Paper pass sensor is defective. 11. Paper pass sensor lead wire is shorted or broken. 12. Registration roller in System Console is worn or dirty. 13. Registration roller clutch in System Console is defective. 14. Registration roller clutch lead wire in System Console is shorted or broken. 15. Paper transport roller is worn or dirty. 16. Paper transport roller clutch is defective. 17. Paper transport roller clutch lead wire is shorted or broken. 18. Timing roller sensor is defective. 19. Timing roller sensor lead wire is shorted or broken. 20. CPU PCB is defective.	J05
	• When the trail edge of the paper is not detected within a predetermined time after the timing roller sensor detects the lead edge of the paper.		J20
② and/ or ①	• When the timing roller sensor does not detect paper within a predetermined time after paper transport roller starts rotating.		J07
	(Upper stage of System Console or paper drawer.) • When the timing roller sensor does not detect paper within a predetermined time after paper transport roller starts rotating.		
	(Middle stage of System Console.) • Same as Upper stage condition.		
	(Lower stage of System Console.) • Same as Upper stage condition.		

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
②	• When the timing roller sensor detects paper at irregular intervals during copier operations.		J10
	(Upper stage of System Console or paper drawer.) • When the registration sensor detects paper at irregular intervals during copier operations.		
	(Middle stage of System Console.) • Same as Upper stage condition.		
	(Lower stage of System Console.) • Same as Upper stage condition.		
	• When the paper pass sensor detects paper when the power switch is turned ON.		J15
② and/ or ③	• When the timing roller sensor detects paper when the power switch is turned ON.		J21
③ and/ or ④	Paper jam (between timing roller sensor and paper exit sensor (A)) • When paper exit sensor (A) does not detect paper within a predetermined time after the timing roller starts rotating.	1. Timing roller is worn or dirty. 2. Timing roller pressure spring is weak. 3. Drive mechanism for timing roller is defective. 4. Timing roller clutch is defective.	J30

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
③ and/ or ④	Paper jam (between timing roller sensor and paper exit sensor (B)) • When paper exit sensor (B) does not detect paper within a predetermined time after the timing roller starts rotating.	5. Timing roller clutch lead wire is shorted or broken. 6. Main motor is defective. 7. Drive mechanism for main motor is defective. 8. Drive mechanism for drum is defective. 9. Drive mechanism for transport belt is defetctive. 10. Heat roller is worn or dirty. 11. Pressure roller is worn or dirty. 12. Heat and pressure rollers do not rotate. 13. Separation fingers in fuser unit are worn or dirty. 14. Transfer/ Separation corona is dirty. 15. Transfer/ Separation corona is not inserted correctly. 16. Foreign material is inside of paper feed section. 17. Paper exit sensor (A) is defective. 18. Paper exit sensor (A) lead wire is shorted or broken. 19. Paper exit (B) sensor is defective. 20. Paper exit sensor (B) lead wire is shorted or broken. 21. CPU PCB is defective.	J30

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
④	Paper jam (Paper exit sensor (A)) • When the trail edge of the paper is not detected within a predetermined time after paper exit sensor (A) detects the lead edge of the paper.	1. Paper exit sensor (A) is defective. 2. Paper exit sensor (A) lead wire is shorted or broken. 3. Paper exit sensor (B) is defective. 4. Paper exit sensor (B) lead wire is shorted or broken. 5. Foreign material is inside of paper feed section. 6. Drive mechanism for paper exit roller is defective. 7. CPU PCB is defective.	J40
	• When the paper exit sensor (A) detects paper when the power switch is turned ON.		J41
	Paper jam (Paper exit sensor (B)) • When the trail edge of the paper is not detected within a predetermined time after paper exit sensor (B) detects the lead edge of the paper.		J50
	• When paper exit sensor (B) detects paper when the power switch is turned ON.		J53
⑤	Paper jam (Paper exit sensor (B)) • During copier operation, paper exit sensor (B) saddenly fails.	1. Paper exit sensor (B) is defective. 2. Paper exit sensor (B) lead wire is shorted or broken.	J88
	Paper jam (Paper IN sensor) • When the paper IN sensor does not detect paper within a predetermined time.	1. Foreign material is inside of paper feed section. 2. Drive mechanism of paper feed section is defective. 3. Paper IN sensor is defective. 4. Paper IN sensor lead wire is shorted or broken. 5. Duplex unit drive PCB is defective. 6. CPU PCB is defective.	J80

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
⑤ and/ or ⑥	• When the trail edge of the paper is not detected within a predetermined time after the paper IN sensor detects the lead edge of the paper.		J81
	• The paper IN sensor detects paper when the power switch is turned ON.		J82
⑥	Paper jam (Duplex unit) • When paper pass sensor (1) does not detect paper within a predetermined time.	1. Foreign material is inside of duplex unit paper feed section. 2. Drive mechanism of duplex unit paper feed section is defective. 3. Paper pass sensor (1) is defective. 4. Paper pass sensor (1) lead wire is shorted or broken. 5. Paper pass sensor (2) is defective. 6. Paper pass sensor (2) lead wire is shorted or broken. 7. Duplex unit paper jam detecting sensor is defective. 8. Duplex unit paper jam detecting sensor lead wire is shortened or broken. 9. Duplex unit paper feed roller is worn. 10. Duplex unit paper feed roller clutch is defective. 11. Lifting plate is defective. 12. Lifting plate motor is defective. 13. Duplex unit is defective. 14. Duplex unit driver PCB is defective.	J83
	• When the tail edge of the paper is not detected within a predetermined time after paper pass sensor (1) detects the lead edge of the paper.		J84
	• Paper pass sensor (1) detects paper when the power switch is tuned ON.		J85
	• When the trail edge of the paper is not detected within a predetermined time after paper pass sensor (2) detects the lead edge of the paper.		J86
	• Paper pass sensor (2) detects paper when the power switch is turned ON. • When the duplex unit detects paper when the power switch is turned ON.		J87

Jam position	Condition	Check	Jam read code (F8-C06 is in use)
⑦	Paper jam (Sorter) • When paper is jammed in the sorter.	Refer to Sorter service manual.	J60
⑧	Paper jam (ADF) • When an original is jammed in the ADF.	Refer to ADF service manual	J70

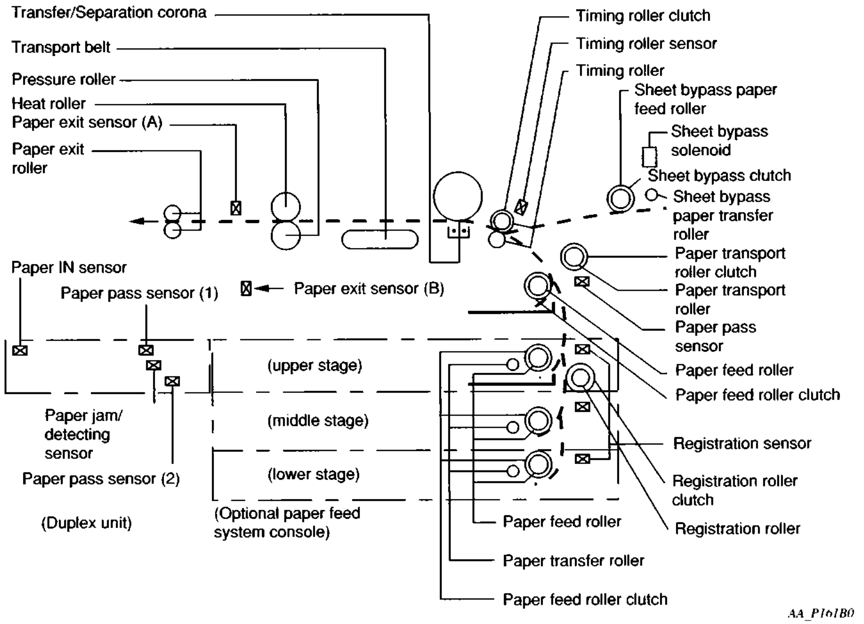

Transfer/Separation corona
Transport belt
Pressure roller
Heat roller
Paper exit sensor (A)
Paper exit roller
Paper IN sensor
Paper pass sensor (1)
Paper exit sensor (B)
(upper stage)
(middle stage)
(lower stage)
Paper jam/ detecting sensor
Paper pass sensor (2)
(Duplex unit)
(Optional paper feed system console)
Timing roller clutch
Timing roller sensor
Timing roller
Sheet bypass paper feed roller
Sheet bypass solenoid
Sheet bypass clutch
Sheet bypass paper transfer roller
Paper transport roller clutch
Paper transport roller
Paper pass sensor
Paper feed roller
Paper feed roller clutch
Registration sensor
Registration roller clutch
Registration roller
Paper feed roller
Paper transfer roller
Paper feed roller clutch
AA_P161B0

Figure 6-58-1

3. Machine error

- The machine system will detect troubles in important areas of the copier. When any trouble occurs the copier stops.
- Error codes indicate the mode number and code number which are alternately displayed in the "Digit" display.

Error code display functions:

E1 : Optical unit error
E2 : Paper feed unit error
E3 : Developer unit and Hopper unit error
E4 : Fuser unit error
E5 : System (+24V/ +10V) error
E6 : Duplex unit error (FP-2080)
E7 : Optional unit error

1) E1: Optical unit error

Code	Function/ Cause	Check
01	Optical unit scan operating • When the lamp unit scanner motor is operating to the optics home position sensor and is not detected ON/ OFF within a predetermined pulse.	1. Optics home position sensor is defective. 2. Optics home position sensor mounting position is incorrect. 3. CN11-2, 4, 6 of CPU PCB and optics home position sensor are shorted or broken. 4. Lamp unit scanner motor is defective. 5. Drive mechanism for lamp unit scanner motor is defective. 6. CN10-1, 2, 3, 4, 5, 6 of CPU PCB and lamp unit scanner motor are shorted or broken. 7. CPU PCB (IC161, IC162, etc.) is defective.
02 to 19	Not used.	—
20	Lens ratio operating • When the lens stepping motor is operating to the lens home position sensor and is not detected ON/ OFF within a predetermined pulse.	1. Lens home position sensor is defective. 2. Lens home position sensor mounting position is incorrect. 3. CN11-10, 12, 14 of CPU PCB and lens home position sensor are shorted or broken. 4. Lens stepping motor is defective. 5. Drive mechanism of lens stepping motor is defective. 6. CN11-11, 13, 15, 17, 19 of CPU PCB and lens stepping motor are shorted or broken. 7. CPU PCB (IC163, etc.) is defective.
21	Mirror ratio operating • When the mirror stepping motor is operating to the mirror home position sensor and is not detected ON/ OFF within a predetermined pulse.	1. Mirror home position sensor is defective. 2. Mirror home position sensor mounting position is incorrect. 3. CN11-16, 18, 20 of CPU PCB and mirror home position sensor are shorted or broken. 4. Mirror stepping motor is defective. 5. Drive mechanism for mirror stepping motor is defective. 6. CN11-1, 3, 5, 7, 9 of CPU PCB and mirror stepping motor are shorted or broken. 7. CPU PCB (IC164, etc.) is defective.
22	Not used.	—
23	F8-02 mis-input (Measurement input for adjusting the original registration)	1. Input the average measurement correctly. 2. Adjust F8-01 and F8-02 again.
24 to 31	Not used.	—

Code	Function/ Cause	Check
32	Auto original density detection • When the auto original density signal is not detected or the auto original density cannot be adjusted.	1. Auto original density sensor is defective. 2. CN12-1, 2 of CPU PCB and auto original density sensor are shorted or broken. 3. Auto original density solenoid is defective. 4. Auto original density solenoid mechanism is abnormal. 5. CN12-3, 4, 5 of CPU PCB and auto original density solenoid are shrted or broken. 6. CPU PCB is defective.

2) E2: Paper feed unit error

Code	Function/ Cause	Check
01	Not used.	—
02	Lifting plate motor of optional 500 sheet paper drawer • Upper stage of System Console.	1. Roller level sensor is defective. 2. Sensor level mounting position is incorrect. 3. CN644-1, 2, 3 of paper feed driver PCB and roller level sensor are shorted or broken. 4. Lifting plate motor is defective. 5. Drive mechanism for lifting plate motor is defective. 6. CN644-4, 5 of paper feed driver PCB and lifting plate motor are shorted or broken. 7. CN641 of paper feed driver PCB and CN18 of CPU PCB are shorted or broken. 8. Paper feed driver PCB is defective. 9. CPU PCB is defective.
03	Lifting plate motor of optional 500 sheet paper drawer • Middle stage of System Console.	Same as 02.
04	Lifting plate motor of optional 500 sheet paper drawer • Lower stage of System Console.	Same as 02.
05	Optional LCC (1000/ 2000 sheet paper drawer) lifting operation • When the lifting plate motor is operating up and down, the Upper limit switch and Lower limit switch are not detected ON/ OFF within a predetermined time.	1. Roller level sensor is defective. 2. CN672-10, 11, 12 of LCC driver PCB and roller level sensor are shorted or broken. 3. Lifting plate motor is defective. 4. Drive mechanism for lifting plate motor is defective. 5. CN672-1, 2 of LCC driver PCB and lifting plate motor are shorted or broken. 6. Lower limit switch is defective. 7. CN672-3, 4 of LCC driver PCB and Lower limit switch are shorted or broken. 8. Upper limit switch is defective. 9. CN672-5, 6 of LCC driver PCB and Upper limit switch are shorted or broken.
06 to 09	Not used	—
32	System Console or paper drawer paper feed motor	1. Paper feed motor is defective. 2. CN612-1, 2, 3, 4, 5 of System Console or paper drawer driver PCB and paper feed motor are shorted or broken. 3. CN16 of CPU PCB and CN611 of System Console or paper drawer driver PCB are shorted or broken. 4. CN16-1, 2, 3 of CPU PCB and CN611-8, 9, 10 of System Console or paper drawer driver PCB are shorted or broken. 5. System Console or paper drawer driver PCB is defective. 6. CPU PCB is defective.

3) E3: Developer unit and Hopper unit error

Code	Function/ Cause	Check
01	Toner bottle motor rotation • When the toner bottle motor is operating to the toner bottle position, toner bottle home position sensor is not detected ON/ OFF.	1. Toner bottle position sensor is defective. 2. CN6-16, 18, 20 of CPU PCB and toner bottle position sensor are shorted or broken. 3. Toner bottle motor is defective. 4. Drive mechanism for toner bottle motor is defective. 5. CN6-6, 8 of CPU PCB and toner bottle motor are shorted or broken. 6. CPU PCB is defective. 7. AC driver PCB is defective.
02	Not used	—
03	Toner density sensor gain	1. Toner density sensor is defective. 2. CN4-2 and 6 are shorted or broken. 3. CPU PCB is defective. 4. When the developer (Black, Red, Blue) is replaced, F8-09 (Toner density sensor gain adjustment) is not performed.
04 to 09	Not used	—
10	High voltage power supply leak (1)	1. Corona (Charge/ Transfer) leak. (Dirty, Foreign material or Wire broken.) 2. CN3-17 of CPU PCB is shorted. 3. Corona end blocks defective. 4. High voltage power supply (1) PCB is defective. 5. CPU PCB is defective.
11	High voltage power supply leak (2)	1. Corona (Separation) leak. (Dirty, Foreign material or Wire broken.) 2. CN3-1 of CPU PCB is shorted. 3. Corona end blocks defective. 4. High voltage power supply (2) PCB is defective. 5. CPU PCB is defective.
12 to 19	Not used	—
20	Main motor rotation	1. Main motor is defective. 2. Drive mechanism for main motor is defective. 3. CN2 of CPU PCB and main motor are shorted or broken. 4. CPU PCB is defective.
21 to 29	Not used	—
30	Discharge lamp	1. Discharge lamp is open. 2. Electrode for discharge lamp is loose. 3. Discharge lamp wire is broken or contact defective. 4. CN4-1, 3 of CPU PCB and discharge lamp are shorted or broken. 5. CPU PCB is defective.
31 to 39	Not used	—
40	copy density sensor output adjustment • When F8-05 is adjusted, the copy density sensor output is not detected within a predetermined measurement.	1. Copy density sensor is defective. 2. Replace developer.
41	Temperature/Humidity sensor failure (FP-2080)	1. Temperature/ Humidity sensor is defective. 2. CNSHT, CNH and/ or CNHUM are/ is shorted or broken. 3. CN26 of CPU PCB is shorted. 4. CPU PCB is defective.

4) E4: Fuser unit error

Code	Function/ Cause	Check
01	Fuser warm-up • When the fuser temperature does not reach the predetermined level within a predetermined time.	1. Fuser lamp circuit or contact defective. 2. Fuser temperature thermostat is open. 3. Fuser thermistor is open or contact defective. 4. AC harness is broken or contact defective. 5. CPU PCB is defective. 6. AC driver PCB is defective.
02 to 09	Not used	—
10	Fuser cooling fan motor (1) • When the motor is operating, the motor signal is not detected ON/ OFF or motor signal is detected ON/ OFF during stops.	1. Fuser cooling fan motor (1) is defective. 2. Drive mechanism for fuser cooling fan motor (1) is defective. 3. Fuser cooling fan motor (1) connector is not inserted correctly. 4. CN7-19, 21, 23 of CPU PCB and fuser cooling fan motor (1) are shorted or broken. 5. CPU PCB is defective.
11	Fuser cooling fan motor (2) • When the motor is operating, the motor signal is not detected ON/ OFF or motor signal is detected ON/ OFF during stops.	1. Fuser cooling fan motor (2) is defective. 2. Drive mechanism for fuser cooling fan motor (2) is defective. 3. Fuser cooling fan motor (2) connector is not inserted correctly. 4. CN7-20, 22, 24 of CPU PCB and fuser cooling fan motor (2) are shorted or broken. 5. CPU PCB is defective.

5) E5: System (+24V/ +10V) error

Code	Function/ Cause	Check
01	Vp (+24V) line	1. +24V (Vp) line is shorted. 2. CN1-1 of CPU PCB and CN802-1 of low voltage power supply PCB are shorted or broken. 3. +24V switch is defective. 4. Door switch of door open/ close detecting sensor is defective. 5. CN15 of CPU PCB is shorted or broken. 6. Low voltage power supply PCB is defective. 7. CPU PCB is defective.
02 to 03	Not used	—
04	Vo (+10V) line	1. +10V (Vo) line is shorted. 2. CN7-5 of CPU PCB and CN204-5 of AC driver PCB are shorted or broken. 3. Auto original density sensor is defective. 4. CPU PCB (IC28, etc.) is defective.
05 to 20	Not used	—
21	ADF communication abnormal • When the communication signal between ADF and copier is abnormal.	1. CN13 of CPU PCB is shorted or broken. 2. CN105 of ADF CPU PCB is shorted or broken. 3. ADF CPU PCB is defective. 4. Copier CPU PCB (IC7, etc.) is defective.
22	Sorter communication abnormal • When the communication signal between the sorter and copier is abnormal.	1. CN20 of CPU PCB is shorted or broken. 2. CNST of sorter driver PCB is shorted or broken. 3. Sorter CPU PCB is defective. 4. CPU PCB is defective.
23	Not used	-
24	Duplex unit communication	1. CN19 of CPU PCB is shorted or broken. 2. CNAD of duplex unit driver PCB is shorted or broken. 3. Duplex unit driver PCB is defective. 4. CPU PCB is defective.
25 to 40	Not used	—
41	Registration timing control circuit abnormal	1. IC4 on CPU PCB is defective. 2. Control circuit for IC4 is defective.

6) E6: Duplex unit error (FP-2080)

Code	Function/ Cause	Check
01	DC+24V power supply abnomal	1. Duplex unit switching regulation PCB is defective (24V line). 2. VPDX (24V) line is shorted. 3. DXVCNT signal from duplex unit driver circuit is defective. 4. VP signal from duplex unit driver circuit is defective. 5. AC1 or AC2 signal from duplex unit switching regulation is defective. 6. Duplex unit driver PCB is defective.
02	Lifting motor abnormal	1. Roller level sensor is defective. 2. Lifting motor is defective. 3. Drive mechanism for lifting motor is defective. 4. Wire from sensor or motor is shorted or broken. 5. Duplex unit driver PCB is defective.
03	Paper length home position detecting sensor • When paper length motor is operating to home position, paper length home position detecting sensor is not detected ON/ OFF within a predetermined time.	1. Sensor is defective. 2. Paper length motor is defective. 3. Drive mechanism of paper length motor is defective. 4. Wire or connector from sensor or motor is shorted or broken. 5. Duplex unit driver PCB is defective.
04	Paper width home position detecting sensor • When paper width motor is operating to home position, paper width home position detecting sensor is not detected ON/ OFF within a predetermined time.	1. Sensor is defective. 2. Paper width motor is defective. 3. Drive mechanism of paper width motor is defective. 4. Wire or connector from sensor or motor is shorted or broken. 5. Duplex unit driver PCB is defective.
05	Paper detecting sensor	1. Sensor is defective. 2. Drive mechanism for duplex unit tray is defective. 3. Wire or connector from sensor is shorted or broken. 4. Duplex unit driver PCB is defective.

Code	Function/ Cause	Check
06	Duplex unit communication	1. CN19 of CPU PCB is shorted or broken. 2. CNAD of duplex unit driver PCB is shorted or broken. 3. Duplex unit driver PCB is defective. 4. CPU PCB is defective.

7) E7: Optional unit error

Code	Function/ Cause	Check
01	Sorter bin movement • When the sorter bin is operating up and down, the sorter cam sensor is not deteced (FA-S270)	1. Sorter cam switch is defective. 2. J3-5, 6 of sorter driver/sensor PCB is shorted or broken. 3. Sorter bin motor is defective. 4. J3-9,10 of sorter driver/sensor PCB is shorted or broken. 5. Sorter driver/sensor PCB connector is shorted or broken. 6. CN14 of CPU PCB and sorter connetor is shorted or broken. 7. Drive mechanism for sorter bin motor is defective. 8. Sorter driver/sensor PCB is defective. 9. Copier CPU PCB is defective.
	Sorter bin movement • When the sorter bins are operating up or down, the sorter bin sensor is not detected ON/ OFF.	1. Drive mechanism of bin is defective. 2. Brake is defective. 3. Bin motor is defective. 4. Bin sensor is defective. 5. Sorter power supply PCB is defective. 6. Sorter CPU PCB is defective. 7. Copier CPU PCB is defective.
	Cable failure • Cable is loose.	1. There is an added load in the bins. 2. Drive mechanism of cable is defective. 3. Cable safety switch is defective. 4. Sorter CPU PCB is defective. 5. Copier CPU PCB is defective.
02	Not used	—
03	Transport belt motor failure	1. Clock sensor is defective. 2. Wire or connector from sensor is shorted or broken. 3. Transport motor is defective. 4. Sorter CPU PCB is defective.
04 to 09	Not used	—
10 *(01)	ADF transport belt motor rotation	1. ADF transport belt motor is defective. 2. CN105-3, 4 of ADF CPU PCB is shorted or broken. 3. Drive mechanism of transport belt motor is defective. 4. ADF CPU PCB is defective. 5. Copier CPU PCB is defective.
10 *(03)	ADF original feed motor rotation	1. ADF original reverse motor is defective. 2. CN104-6, 7 of ADF CPU PCB is shorted or broken. 3. Drive mechanism of original feed motor is defective. 4. ADF CPU PCB is defective. 5. Copier CPU PCB is defective.
10 *(04)	ADF original reverse motor rotation	1. ADF original reverse motor is defective. 2. CN105-5, 6 of ADF CPU PCB is shorted or broken. 3. Drive mechanism of original reverse motor is defective. 4. ADF CPU PCB is defective. 5. Copier CPU PCB is defective.
11 *(11)	ADF registration sensor output abnormal	1. Sensor is defective. 2. Sensor output is detected without a predetermined output. 3. ADF CPU PCB is defective.
11 *(12)	ADF original exit/ reverse sensor output abnormal	

*( ) will appear in the "Digit" display on the ADF.

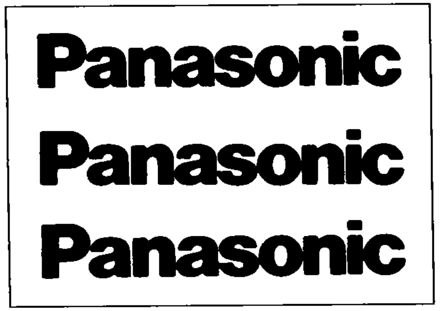
6.3 Problem flowchart

1. Image information

- **Normal copy sample**

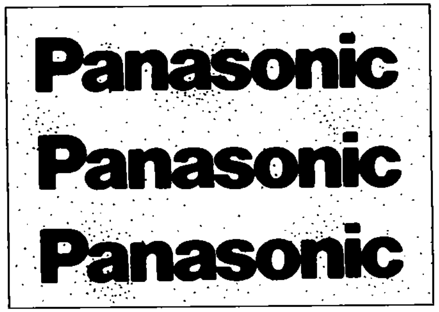
  A good image is shown below with a bad image as examples to use as a basis for troubleshooting.

Paper feed direction ←

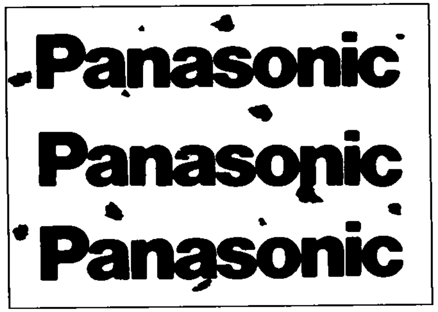


AA_S162B0

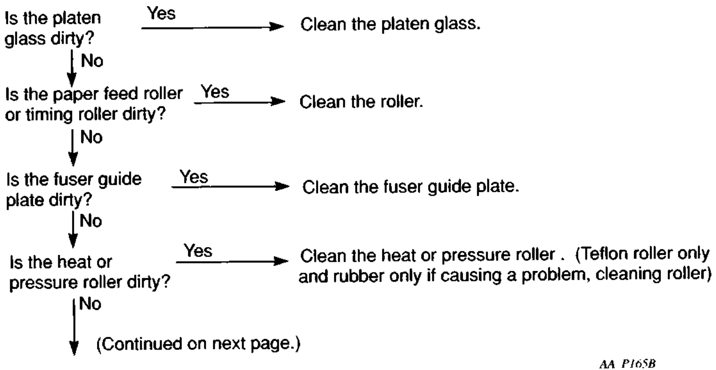
PROBLEM: IRREGULAR DIRT



AA_S163B0

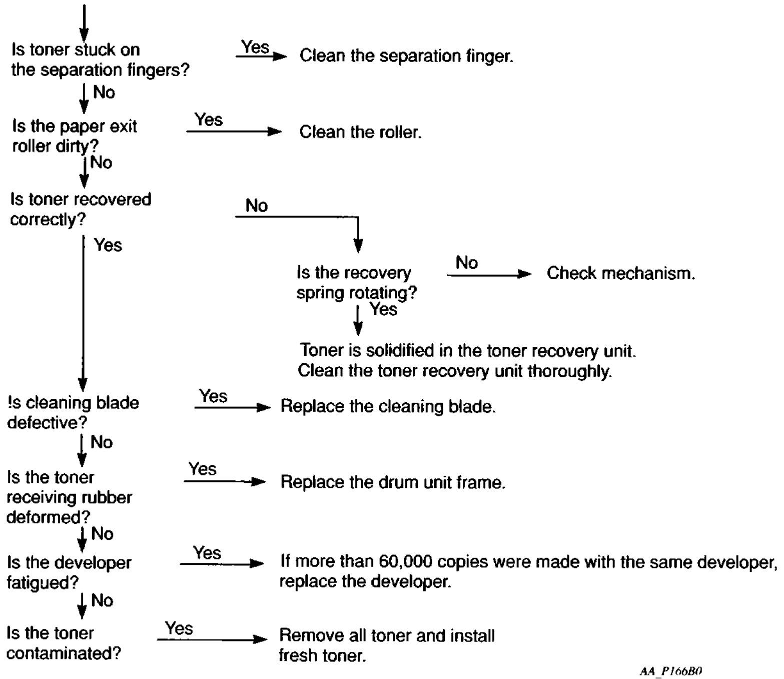


AA_S164B0



Is the platen glass dirty? — Yes → Clean the platen glass.
↓ No
Is the paper feed roller or timing roller dirty? — Yes → Clean the roller.
↓ No
Is the fuser guide plate dirty? — Yes → Clean the fuser guide plate.
↓ No
Is the heat or pressure roller dirty? — Yes → Clean the heat or pressure roller . (Teflon roller only and rubber only if causing a problem, cleaning roller)
↓ No
(Continued on next page.)

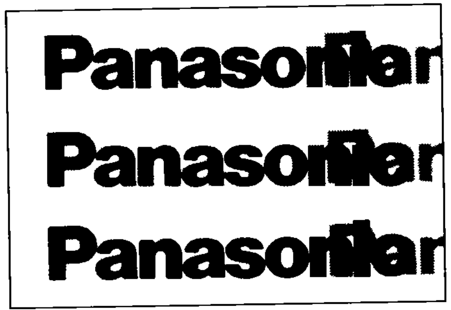
AA_P165B

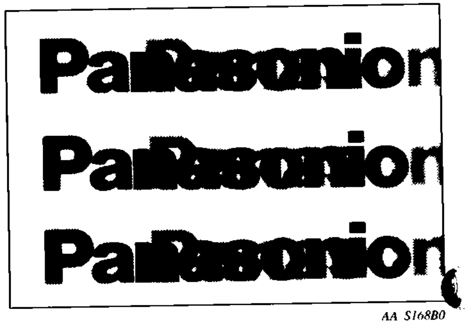


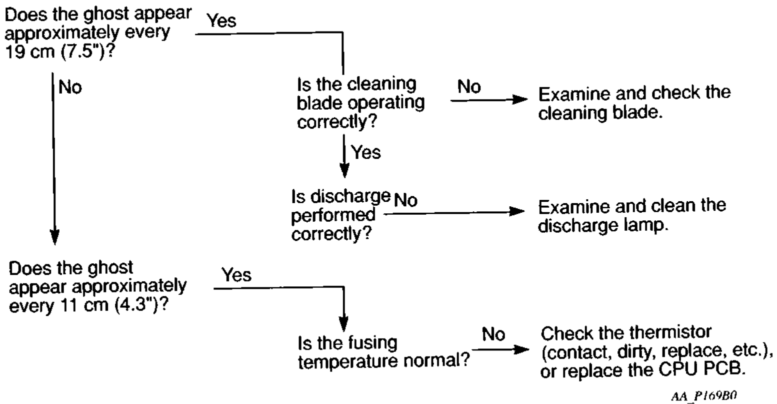
Is toner stuck on the separation fingers? — Yes → Clean the separation finger.
↓ No
Is the paper exit roller dirty? — Yes → Clean the roller.
↓ No
Is toner recovered correctly? — No → Is the recovery spring rotating? — No → Check mechanism.
↓ Yes (recovery spring rotating) → Toner is solidified in the toner recovery unit. Clean the toner recovery unit thoroughly.
↓ Yes
Is cleaning blade defective? — Yes → Replace the cleaning blade.
↓ No
Is the toner receiving rubber deformed? — Yes → Replace the drum unit frame.
↓ No
Is the developer fatigued? — Yes → If more than 60,000 copies were made with the same developer, replace the developer.
↓ No
Is the toner contaminated? — Yes → Remove all toner and install fresh toner.

AA_P166B0

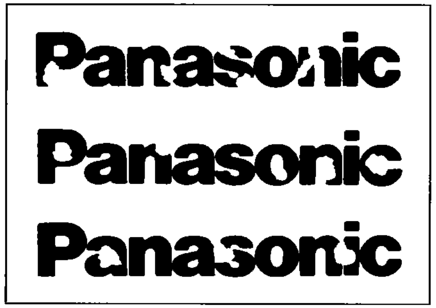
PROBLEM: GHOST-REPEATED IMAGE

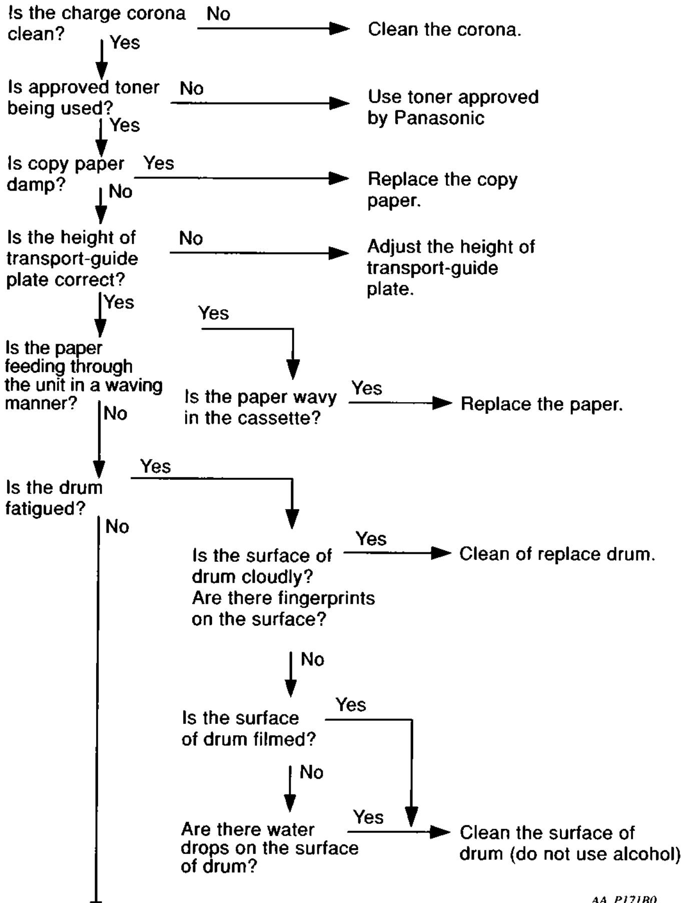

AA_S167B0


AA_S168B0


Does the ghost appear approximately every 19 cm (7.5")?
Yes
No
Is the cleaning blade operating correctly?
No
Examine and check the cleaning blade.
Yes
Is discharge performed correctly?
No
Examine and clean the discharge lamp.
Does the ghost appear approximately every 11 cm (4.3")?
Yes
Is the fusing temperature normal?
No
Check the thermistor (contact, dirty, replace, etc.), or replace the CPU PCB.
AA_P169B0

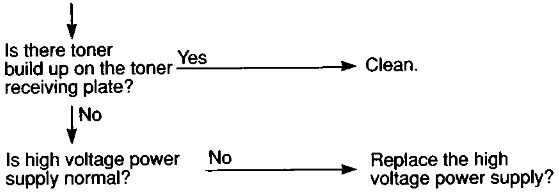
PROBLEM: VOID IN SOLID AREA AND TRAIL EDGE


AA_S170B0


Is the charge corona clean?
No
Clean the corona.
Yes
Is approved toner being used?
No
Use toner approved by Panasonic
Yes
Is copy paper damp?
Yes
Replace the copy paper.
No
Is the height of transport-guide plate correct?
No
Adjust the height of transport-guide plate.
Yes
Is the paper feeding through the unit in a waving manner?
Yes
Is the paper wavy in the cassette?
Yes
Replace the paper.
No
Is the drum fatigued?
Yes
Is the surface of drum cloudly? Are there fingerprints on the surface?
Yes
Clean of replace drum.
No
Is the surface of drum filmed?
Yes
No
Are there water drops on the surface of drum?
Yes
Clean the surface of drum (do not use alcohol)
No

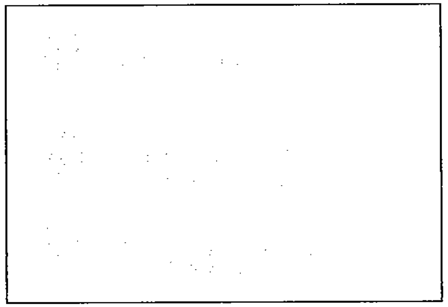
(Continued on next page.)

AA_P171B0

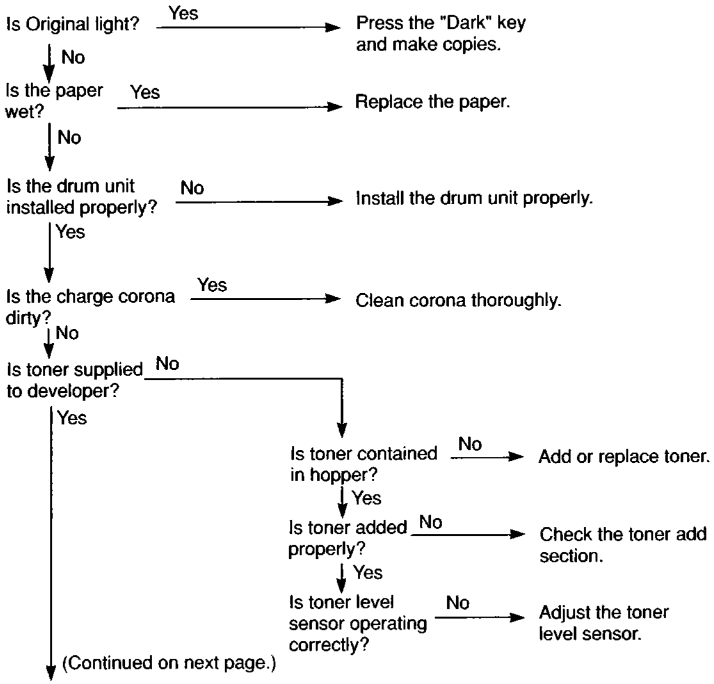

Is there toner build up on the toner receiving plate?
Yes
Clean.
No
Is high voltage power supply normal?
No
Replace the high voltage power supply?

AA_P172B0

PROBLEM: LIGHT IMAGE



AA_S173B0


Is Original light?
Yes
Press the "Dark" key and make copies.
No
Is the paper wet?
Yes
Replace the paper.
No
Is the drum unit installed properly?
No
Install the drum unit properly.
Yes
Is the charge corona dirty?
Yes
Clean corona thoroughly.
No
Is toner supplied to developer?
No
Yes
Is toner contained in hopper?
No
Add or replace toner.
Yes
Is toner added properly?
No
Check the toner add section.
Yes
Is toner level sensor operating correctly?
No
Adjust the toner level sensor.
(Continued on next page.)

AA_P174B0

↓ Yes

Is the bias for magnetic roller correct? — No → Check the bias terminal at point of contact.

↓ Yes

Is the volume of developer insufficient? — Yes → When replacing developer pour the entire bottle of developer into the unit.

↓ No

Is the drum fatigued? — Yes → If drum has more than 60,000 copies, try replacing the drum.

↓ No

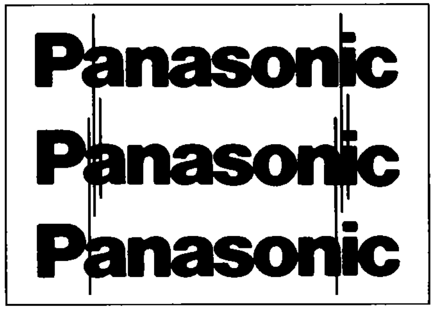
Is the developer fatigued? — Yes → If more than 60, 000 copies were made with the same developer, replace the developer.

↓ No

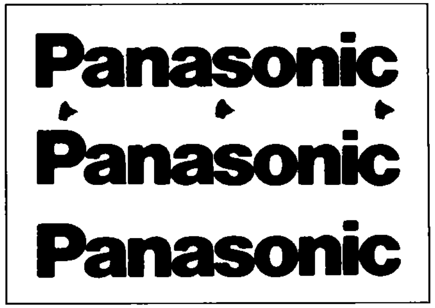
Is the transfer corona voltage less than predetermined voltage? — Yes → Replace the high voltage power supply (1) PCB.

AA_P175B0

PROBLEM: MARKING ON COPY AT REGULAR INTERVALS



AA_S176B0



AA_S177B0

Is the platen mat dirty? — Yes → Clean the platen mat.

↓ No

Is the platen glass dirty? — Yes → Clean the platen glass.

↓ No

Does the image mark appear appoximately every 19cm (7.5") — Yes → Is the drum damaged? — Yes → Clean or replace the drum.

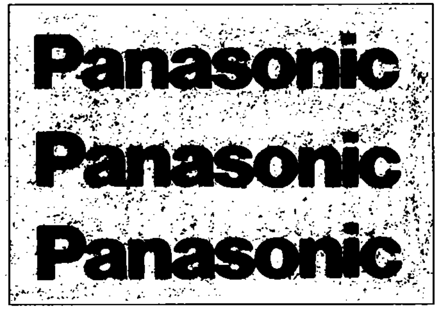
↓ No

Does the image mark happen approximately every 11cm(4.3")? — Yes → Is the heat or pressue roller dirty? — Yes → Clean the heat or pressure roller.

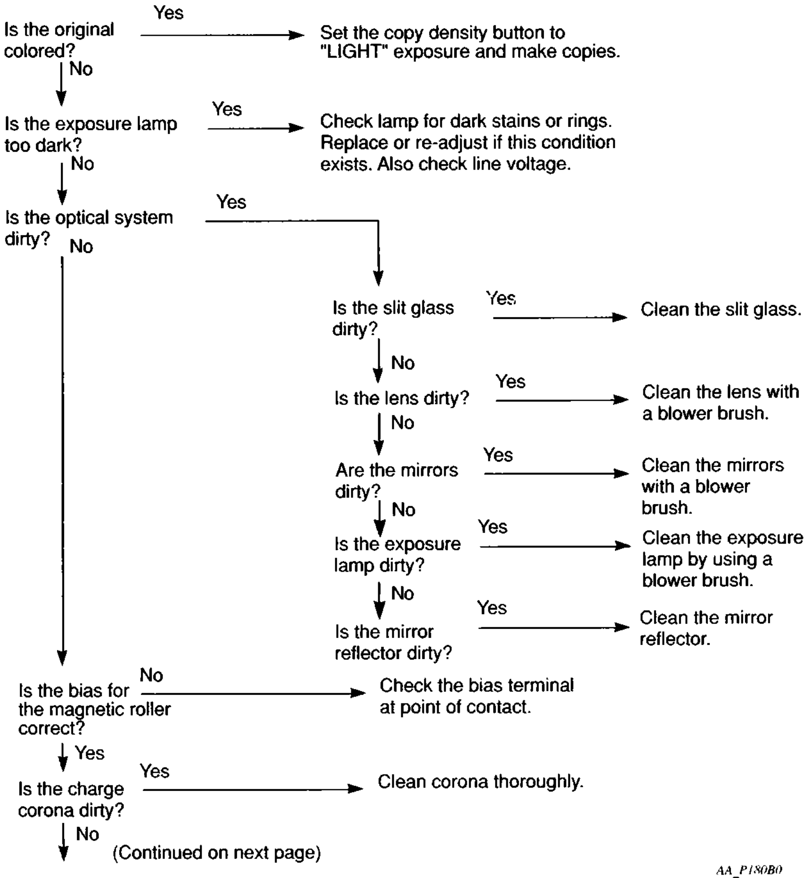
- ↓ No
- Is the fuser pressure set correctly? — No → Adjust the pressure
- ↓ Yes
- Is the fusing temperature normal? — No → Clean the thermistor (contact, dirty, replace, etc.) or replace the CPU PCB.

AA_P178B0

PROBLEM: BACKGROUND



AA_S179B0



Is the original colored? — Yes → Set the copy density button to "LIGHT" exposure and make copies.

No ↓

Is the exposure lamp too dark? — Yes → Check lamp for dark stains or rings. Replace or re-adjust if this condition exists. Also check line voltage.

No ↓

Is the optical system dirty? — Yes ↓

- Is the slit glass dirty? — Yes → Clean the slit glass.
- No ↓ Is the lens dirty? — Yes → Clean the lens with a blower brush.
- No ↓ Are the mirrors dirty? — Yes → Clean the mirrors with a blower brush.
- No ↓ Is the exposure lamp dirty? — Yes → Clean the exposure lamp by using a blower brush.
- No ↓ Is the mirror reflector dirty? — Yes → Clean the mirror reflector.

Is the optical system dirty? No ↓

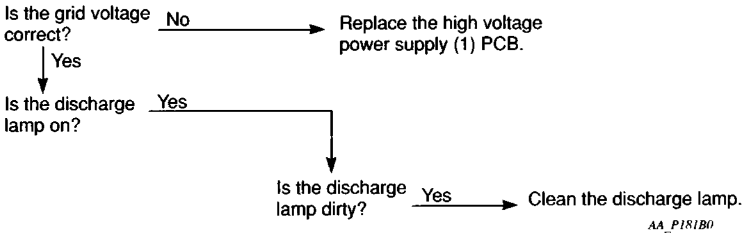
Is the bias for the magnetic roller correct? — No → Check the bias terminal at point of contact.

Yes ↓

Is the charge corona dirty? — Yes → Clean corona thoroughly.

No ↓ (Continued on next page)

AA_P180B0



Is the grid voltage correct? — No → Replace the high voltage power supply (1) PCB.

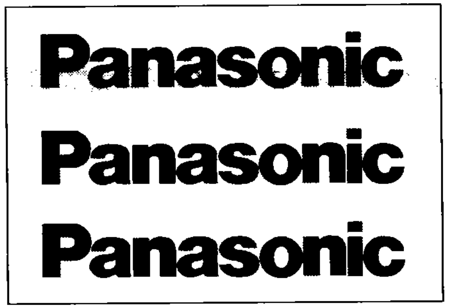
Yes ↓

Is the discharge lamp on? — Yes ↓

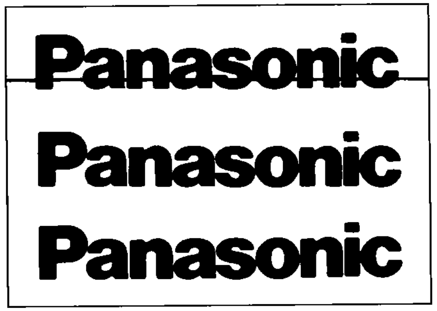
Is the discharge lamp dirty? — Yes → Clean the discharge lamp.

AA_P181B0

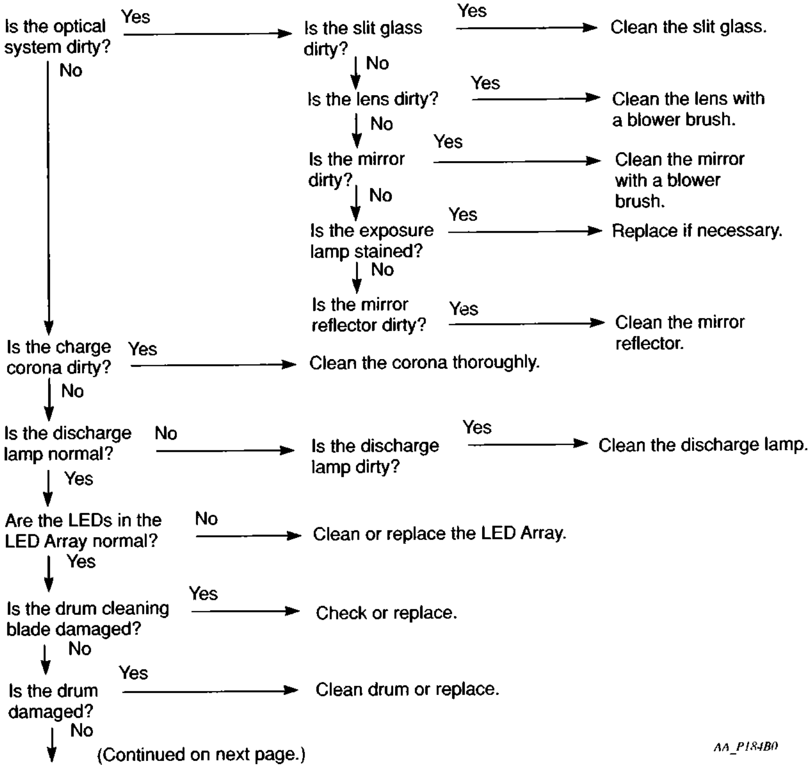
PROBLEM: DARK LINES IN DIRECTION OF PAPER FEED


Panasonic
Panasonic
Panasonic

AA_S182B0

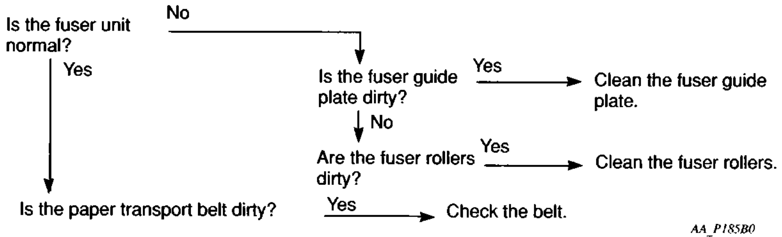

Panasonic
Panasonic
Panasonic

AA_S183B0


Is the optical system dirty?
Yes
Is the slit glass dirty?
Yes
Clean the slit glass.
No
Is the lens dirty?
Yes
Clean the lens with a blower brush.
No
Is the mirror dirty?
Yes
Clean the mirror with a blower brush.
No
Is the exposure lamp stained?
Yes
Replace if necessary.
No
Is the mirror reflector dirty?
Yes
Clean the mirror reflector.
No
Is the charge corona dirty?
Yes
Clean the corona thoroughly.
No
Is the discharge lamp normal?
No
Is the discharge lamp dirty?
Yes
Clean the discharge lamp.
Yes
Are the LEDs in the LED Array normal?
No
Clean or replace the LED Array.
Yes
Is the drum cleaning blade damaged?
Yes
Check or replace.
No
Is the drum damaged?
Yes
Clean drum or replace.
No

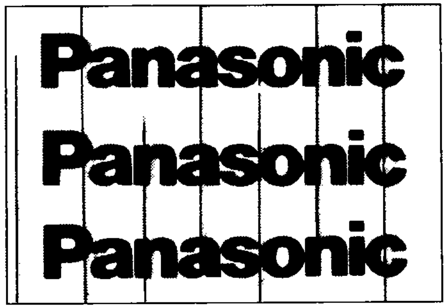
(Continued on next page.)

AA_P184B0


Is the fuser unit normal?
No
Is the fuser guide plate dirty?
Yes
Clean the fuser guide plate.
No
Are the fuser rollers dirty?
Yes
Clean the fuser rollers.
Yes
Is the paper transport belt dirty?
Yes
Check the belt.

AA_P185B0

PROBLEM: DARK LINES IN OPPOSITE DIRECTION OF PAPER FEED


Panasonic
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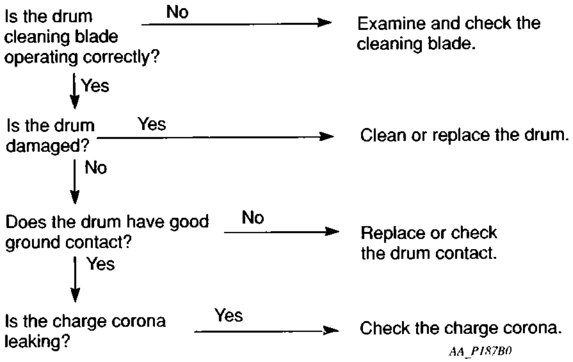
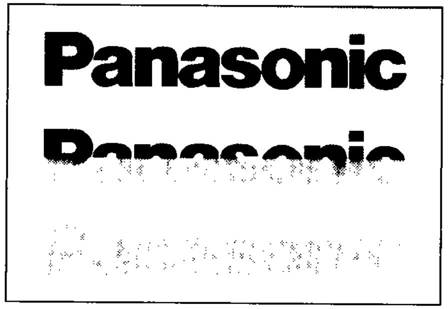
Panasonic

AA_S186B0


Is the drum cleaning blade operating correctly?
No
Examine and check the cleaning blade.
Yes
Is the drum damaged?
Yes
Clean or replace the drum.
No
Does the drum have good ground contact?
No
Replace or check the drum contact.
Yes
Is the charge corona leaking?
Yes
Check the charge corona.

AA_P187B0

PROBLEM: VARIATION IN COPY DENSITY


Panasonic
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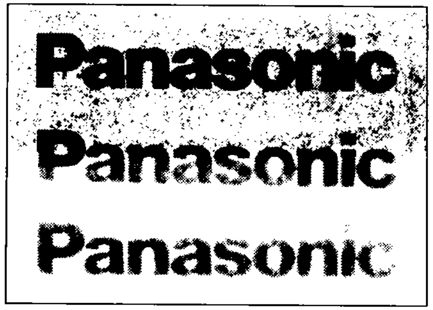
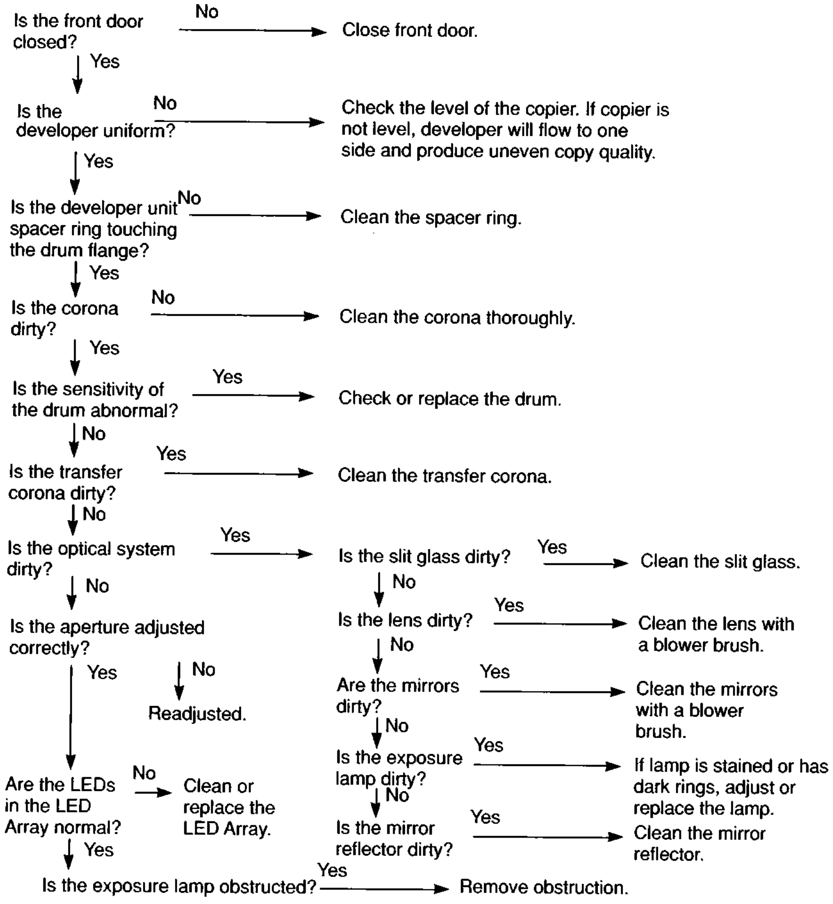
AA_S188B0

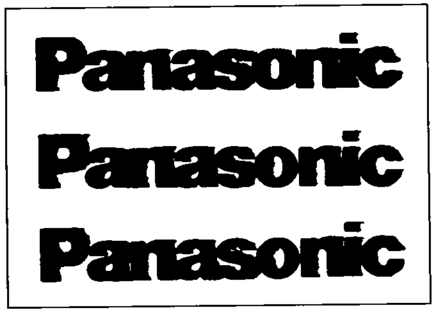

Panasonic
Panasonic
Panasonic

AA_S189B0

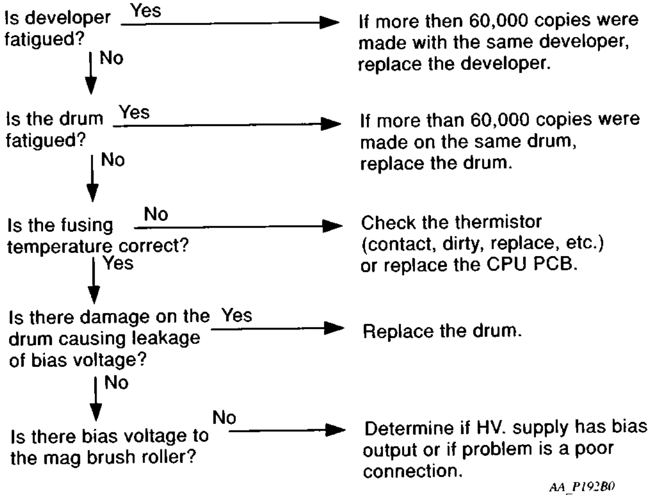

Is the front door closed?
No
Close front door.
Yes
Is the developer uniform?
No
Check the level of the copier. If copier is not level, developer will flow to one side and produce uneven copy quality.
Yes
Is the developer unit spacer ring touching the drum flange?
No
Clean the spacer ring.
Yes
Is the corona dirty?
No
Clean the corona thoroughly.
Yes
Is the sensitivity of the drum abnormal?
Yes
Check or replace the drum.
No
Is the transfer corona dirty?
Yes
Clean the transfer corona.
No
Is the optical system dirty?
Yes
Is the slit glass dirty?
Yes
Clean the slit glass.
No
Is the lens dirty?
Yes
Clean the lens with a blower brush.
No
Are the mirrors dirty?
Yes
Clean the mirrors with a blower brush.
No
Is the exposure lamp dirty?
Yes
If lamp is stained or has dark rings, adjust or replace the lamp.
No
Is the mirror reflector dirty?
Yes
Clean the mirror reflector.
Yes
No
Is the aperture adjusted correctly?
Yes
No
Readjusted.
Are the LEDs in the LED Array normal?
No
Clean or replace the LED Array.
Yes
Is the exposure lamp obstructed?
Yes
Remove obstruction.

AA_P190B0

PROBLEM: TAILING OF IMAGE



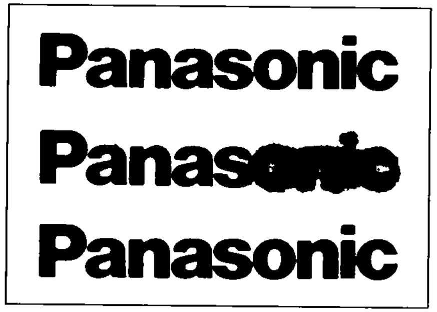
AA_S191B0



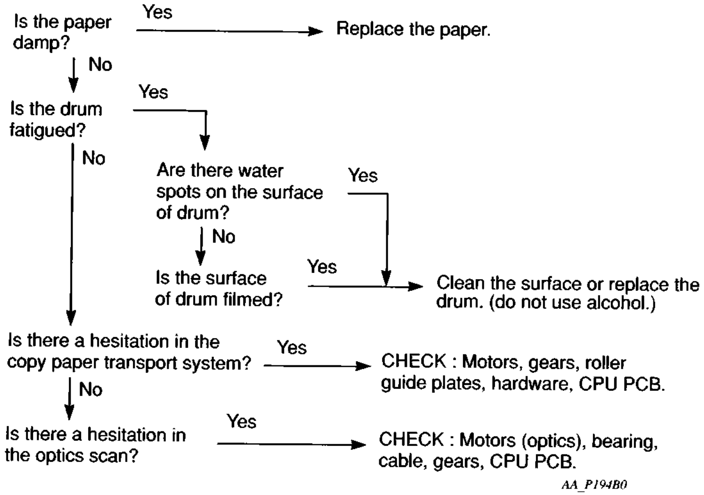
Is developer fatigued? — Yes → If more then 60,000 copies were made with the same developer, replace the developer.
↓ No
Is the drum fatigued? — Yes → If more than 60,000 copies were made on the same drum, replace the drum.
↓ No
Is the fusing temperature correct? — No → Check the thermistor (contact, dirty, replace, etc.) or replace the CPU PCB.
↓ Yes
Is there damage on the drum causing leakage of bias voltage? — Yes → Replace the drum.
↓ No
Is there bias voltage to the mag brush roller? — No → Determine if HV. supply has bias output or if problem is a poor connection.

AA_P192B0

PROBLEM: BLURRED IMAGE



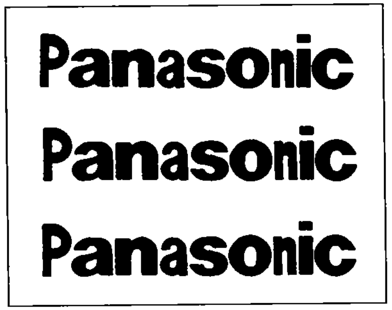
AA_S193B0



Is the paper damp? — Yes → Replace the paper.
↓ No
Is the drum fatigued? — Yes ↓
Are there water spots on the surface of drum? — Yes → Clean the surface or replace the drum. (do not use alcohol.)
↓ No
Is the surface of drum filmed? — Yes → Clean the surface or replace the drum. (do not use alcohol.)
Is the drum fatigued? — No ↓
Is there a hesitation in the copy paper transport system? — Yes → CHECK : Motors, gears, roller guide plates, hardware, CPU PCB.
↓ No
Is there a hesitation in the optics scan? — Yes → CHECK : Motors (optics), bearing, cable, gears, CPU PCB.

AA_P194B0

PROBLEM:ENLARGEMENT OR SHRINKAGE OF IMAGE (INCLUDING A DISTORTED IMAGE)


Panasonic
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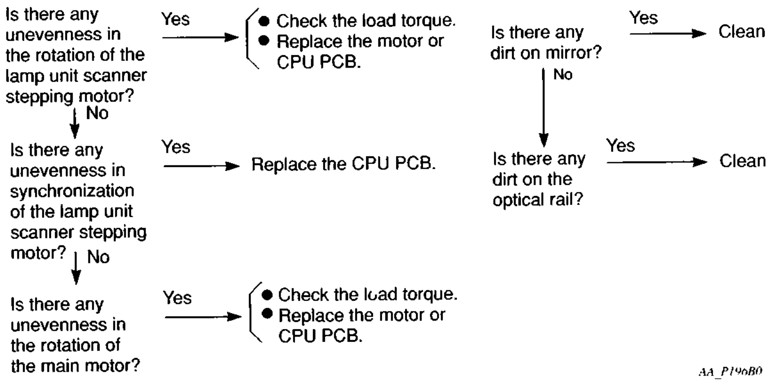
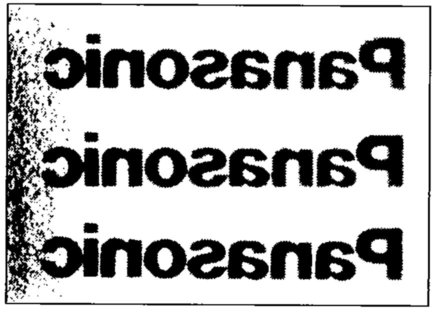
Panasonic

AA_S195B0


Is there any unevenness in the rotation of the lamp unit scanner stepping motor?
Yes
● Check the load torque.
● Replace the motor or CPU PCB.
No
Is there any unevenness in synchronization of the lamp unit scanner stepping motor?
Yes
Replace the CPU PCB.
No
Is there any unevenness in the rotation of the main motor?
Yes
● Check the load torque.
● Replace the motor or CPU PCB.
Is there any dirt on mirror?
Yes
Clean
No
Is there any dirt on the optical rail?
Yes
Clean

AA_P196B0

PROBLEM: MARKING ON BACK OF COPY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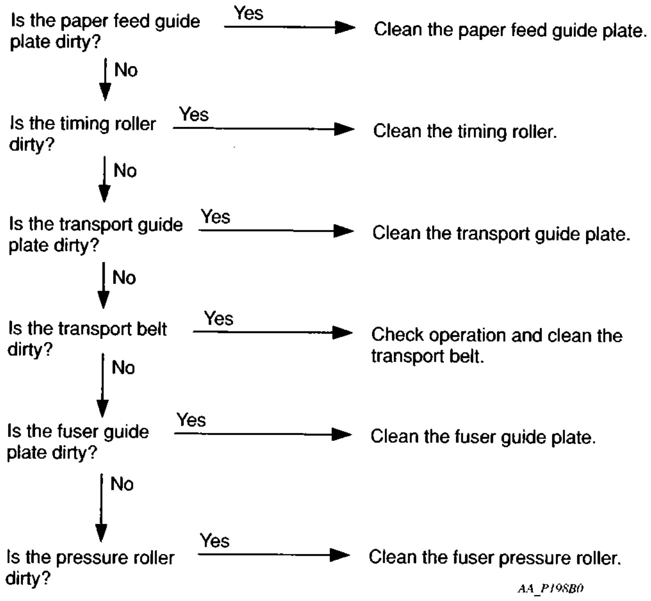
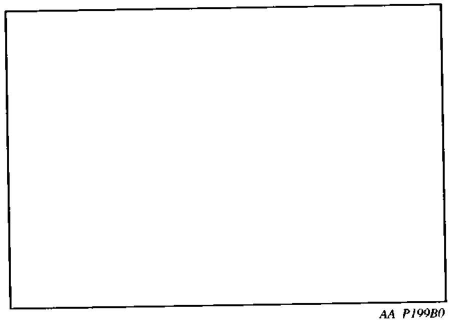
AA_S197B0

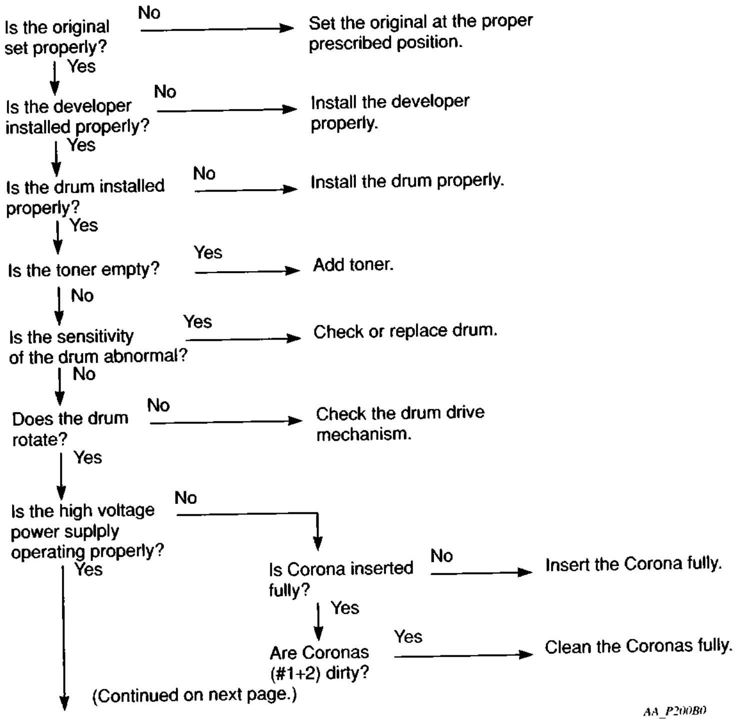

Is the paper feed guide plate dirty?
Yes
Clean the paper feed guide plate.
No
Is the timing roller dirty?
Yes
Clean the timing roller.
No
Is the transport guide plate dirty?
Yes
Clean the transport guide plate.
No
Is the transport belt dirty?
Yes
Check operation and clean the transport belt.
No
Is the fuser guide plate dirty?
Yes
Clean the fuser guide plate.
No
Is the pressure roller dirty?
Yes
Clean the fuser pressure roller.

AA_P198B0

PROBLEM: WHITE COPY, NO IMAGE

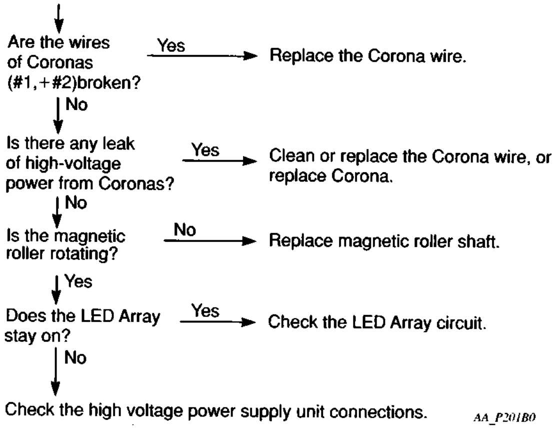


AA_P199B0



Is the original set properly? — No → Set the original at the proper prescribed position.
↓ Yes
Is the developer installed properly? — No → Install the developer properly.
↓ Yes
Is the drum installed properly? — No → Install the drum properly.
↓ Yes
Is the toner empty? — Yes → Add toner.
↓ No
Is the sensitivity of the drum abnormal? — Yes → Check or replace drum.
↓ No
Does the drum rotate? — No → Check the drum drive mechanism.
↓ Yes
Is the high voltage power suplply operating properly? — No ↓
Is Corona inserted fully? — No → Insert the Corona fully.
↓ Yes
Are Coronas (#1+2) dirty? — Yes → Clean the Coronas fully.
Is the high voltage power suplply operating properly? ↓ Yes
(Continued on next page.)

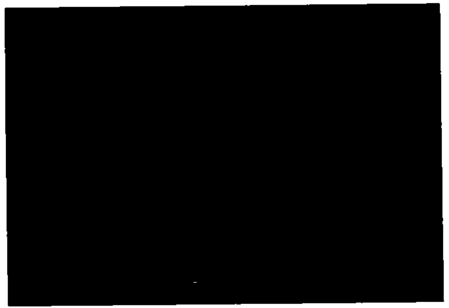
AA_P200B0



↓
Are the wires of Coronas (#1,+#2)broken? — Yes → Replace the Corona wire.
↓ No
Is there any leak of high-voltage power from Coronas? — Yes → Clean or replace the Corona wire, or replace Corona.
↓ No
Is the magnetic roller rotating? — No → Replace magnetic roller shaft.
↓ Yes
Does the LED Array stay on? — Yes → Check the LED Array circuit.
↓ No
Check the high voltage power supply unit connections.

AA_P201B0

PROBLEM: SOLID BLACK COPY

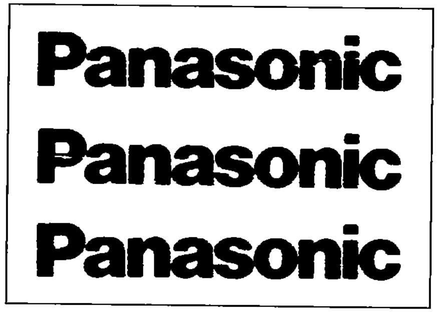


AA_P202B0

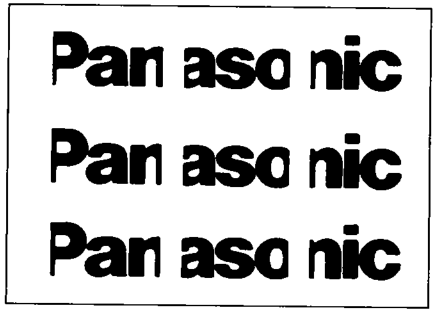
- Is the exposure lamp too dark? — Yes → Adjust or replace the lamp. Check line voltage.
  - No ↓
- Is the mirror misaligned? — Yes → Adjust mirror.
  - No ↓
- Is the exposure lamp illuminated? — No ↓
  - Is the exposure lamp open? — Yes → Replace the exposure lamp.
    - No ↓
  - Is the exposure lamp thermostat open? — Yes → Reset the thermostat.
    - No ↓
  - Is the connector for the AC driver PCB inserted fully? — No → Insert the connector fully.
    - Yes ↓
  - Is the connector of CPU PCB inserted fully? — No → Insert the connector fully.

AA_P203B0

PROBLEM: WHITE LINES IN SOLID AREA



AA_S204B0

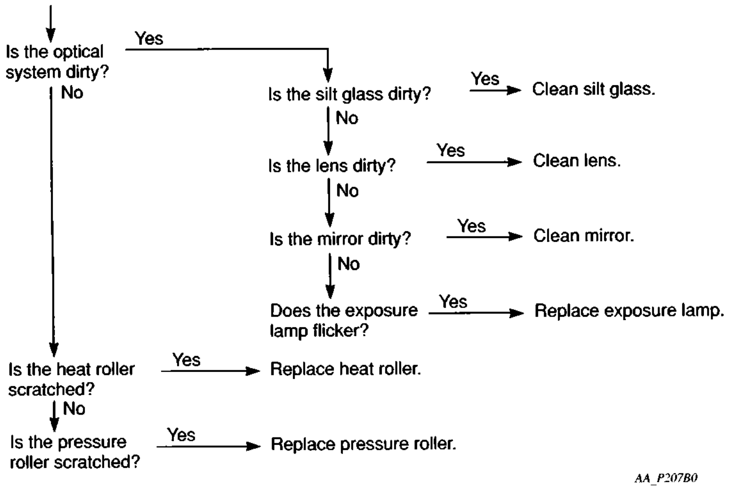


AA_S205B0

- Are Individual coronas dirty? — Yes → Clean coronas.
  - No ↓
- Is the paper wrinkled? — Yes → Replace paper.
  - No ↓
- Is toner being supplied to developer unit correctly? — No → Is toner in the developer section? — No → Check the developer section.
  - Yes ↓
- Is the developer fatigued? — Yes → If more than 60,000 copies were made by the same developer, replace the developer.
  - No ↓
- Is the volume of developer correct? — No → When replacing developer, pour in one bottle of developer. Do not add developer to existing developer in unit.
  - Yes ↓
- Is the doctor blade choked with developer? — Yes → Clean the doctor blade with a brush.
  - No ↓
- Is the drum cleaning blade damaged? — Yes → Replace blade.
  - No ↓
- Is the drum filmed? — Yes → Clean or replace the drum.
  - No ↓

(Continued on next page.)

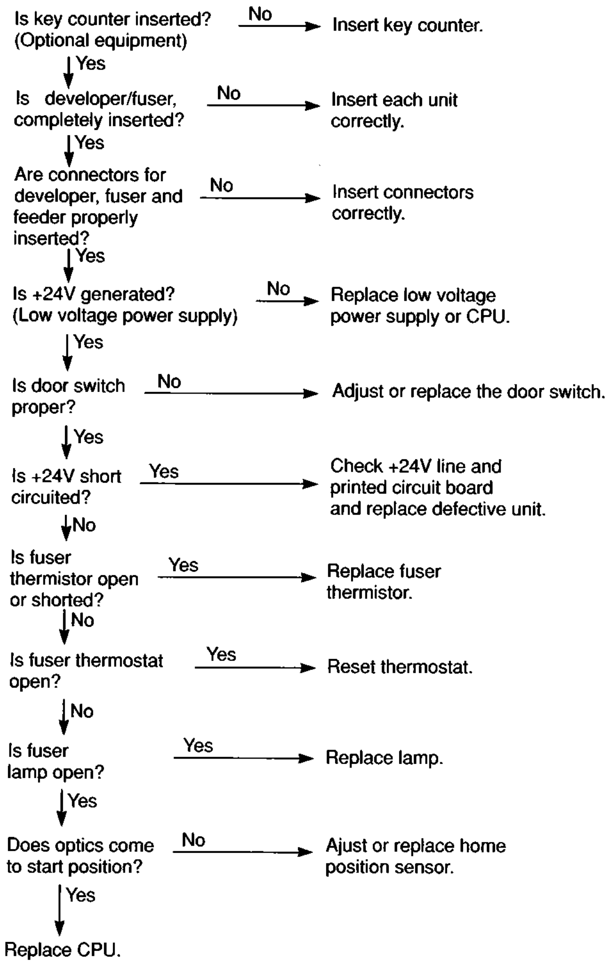
AA_P206B0


Is the optical system dirty?
Yes
Is the silt glass dirty?
Yes
Clean silt glass.
No
Is the lens dirty?
Yes
Clean lens.
No
Is the mirror dirty?
Yes
Clean mirror.
No
Does the exposure lamp flicker?
Yes
Replace exposure lamp.
No
Is the heat roller scratched?
Yes
Replace heat roller.
No
Is the pressure roller scratched?
Yes
Replace pressure roller.

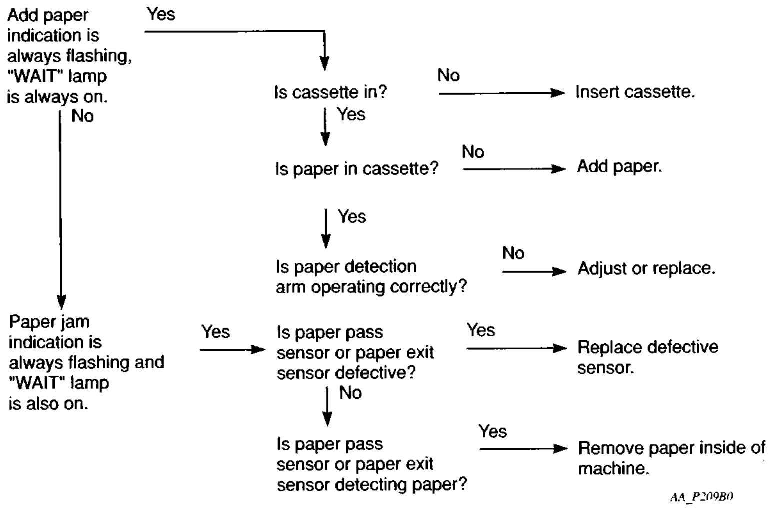
AA_P207B0

2. Other information

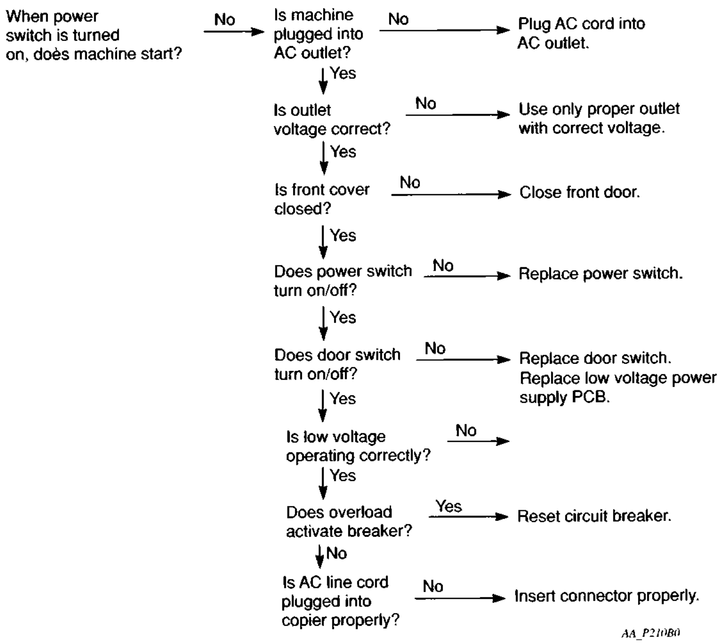
PROBLEM: "WAIT" LAMP ON NO COPY FUNCTION


Is key counter inserted? (Optional equipment)
No
Insert key counter.
Yes
Is developer/fuser, completely inserted?
No
Insert each unit correctly.
Yes
Are connectors for developer, fuser and feeder properly inserted?
No
Insert connectors correctly.
Yes
Is +24V generated? (Low voltage power supply)
No
Replace low voltage power supply or CPU.
Yes
Is door switch proper?
No
Adjust or replace the door switch.
Yes
Is +24V short circuited?
Yes
Check +24V line and printed circuit board and replace defective unit.
No
Is fuser thermistor open or shorted?
Yes
Replace fuser thermistor.
No
Is fuser thermostat open?
Yes
Reset thermostat.
No
Is fuser lamp open?
Yes
Replace lamp.
Yes
Does optics come to start position?
No
Ajust or replace home position sensor.
Yes
Replace CPU.

AA_P208B0

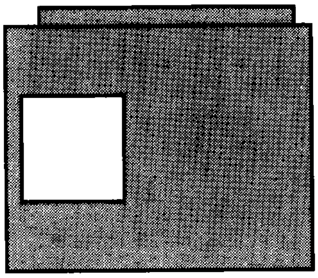

Add paper indication is always flashing, "WAIT" lamp is always on.
Yes
No
Is cassette in?
No
Insert cassette.
Yes
Is paper in cassette?
No
Add paper.
Yes
Is paper detection arm operating correctly?
No
Adjust or replace.
Paper jam indication is always flashing and "WAIT" lamp is also on.
Yes
Is paper pass sensor or paper exit sensor defective?
Yes
Replace defective sensor.
No
Is paper pass sensor or paper exit sensor detecting paper?
Yes
Remove paper inside of machine.
AA_P209B0

PROBLEM: MACHINE DOES NOT TURN ON


When power switch is turned on, does machine start?
No
Is machine plugged into AC outlet?
No
Plug AC cord into AC outlet.
Yes
Is outlet voltage correct?
No
Use only proper outlet with correct voltage.
Yes
Is front cover closed?
No
Close front door.
Yes
Does power switch turn on/off?
No
Replace power switch.
Yes
Does door switch turn on/off?
No
Replace door switch. Replace low voltage power supply PCB.
Yes
Is low voltage operating correctly?
No
Yes
Does overload activate breaker?
Yes
Reset circuit breaker.
No
Is AC line cord plugged into copier properly?
No
Insert connector properly.
AA_P210B0

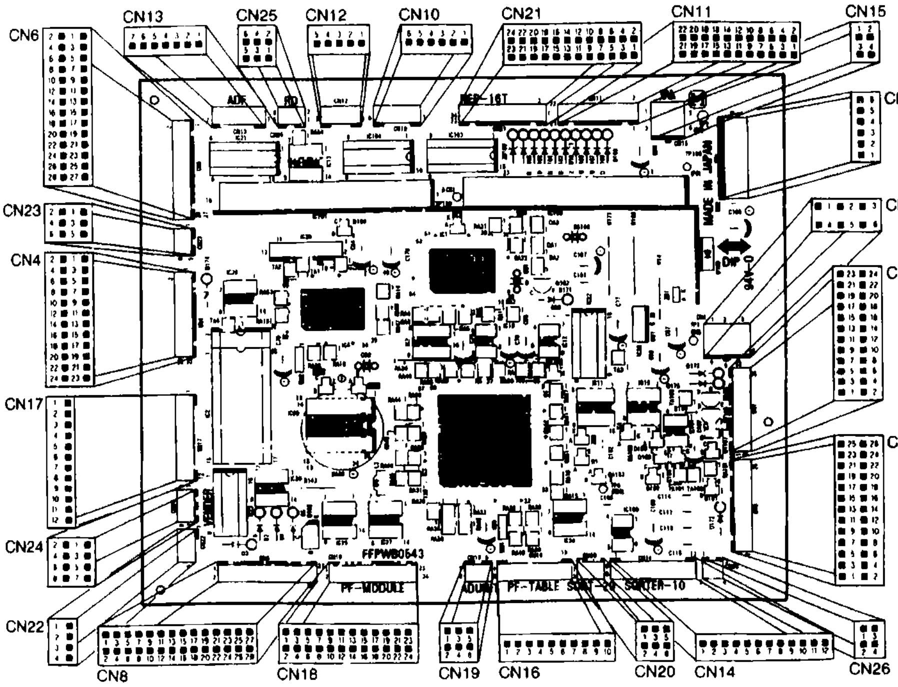
(Blank)

6.4 Troubleshooting guide
CPU PCB



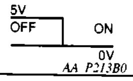
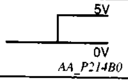
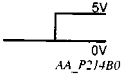
AA_P212B0

Rear view

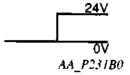
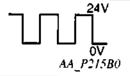
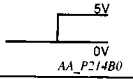
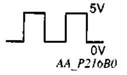

CN13
CN25
CN12
CN10
CN21
CN11
CN15
CN6
CN2
CN23
CN1
CN4
CN7
CN17
CN3
CN24
CN22
CN8
CN18
CN19
CN16
CN20
CN14
CN26
ADF
PF-MODULE
PF-TABLE
SORTER-10
FFPWB0543
MADE IN JAPAN

AB_S061U0

(CN1)

Pin No.	Signal Name	Destination	Status	Function
1	VCNT	Low voltage power supply PCB CN802-1	 5V OFF ON 0V AA_P213B0	DC + 24V ON/OFF signal
2	GND	Low voltage power supply PCB CN802-2	0V	Ground
3	VL	Low voltage power supply PCB CN802-3	 5V 0V AA_P214B0	DC + 5V power supply
4	GND	Low voltage power supply PCB CN802-4	0V	Ground
5	GND	Low voltage power supply PCB CN802-5	0V	Ground
6	VL	Low voltage power supply PCB CN802-6	 5V 0V AA_P214B0	DC + 5V power supply

(CN2)

Pin No.	Signal Name	Destination	Status	Function
1	MM1	Main motor CNMM-1	 24V 0V AA_P231B0	Main motor drive power
2	MM2	Main motor CNMM-2	 24V 0V AA_P215B0	Main motor drive voltage
3	–	–	–	–
4	VL	Main motor CNMM-4	 5V 0V AA_P214B0	DC + 5V power supply
5	MMO	Main motor CNMM-5	 5V 0V AA_P216B0	Main motor FG signal
6	GND	Main motor CNMM-6	0V	Ground

(CN3)

Pin No.	Signal Name	Destination	Status	Function
1	HVLK2	High voltage power supply (2) PCB CN702-4	5V Leak 0V AA_P217B0	Self-diagnostic input signal for high voltage leak(2) +5V: Normal 0V: Leak
2	SCFM	Suction fan motor CNSC-3	24V ON OFF 0V AA_P218B0	Suction fan motor ON/OFF signal
3	HVCNT2	High voltage power supply (2) PCB CN702-3	24V ON OFF 0V AA_P218B0	High voltage power supply (2) unit ON/OFF signal
4	—	—	—	—
5	PGND	High voltage power supply (2) PCB CN702-2	0V	Power ground
6	VP	Suction fan motor CNSC-1	24V 0V AA_P231B0	DC+24V power supply
7	VP	High voltage power supply (2) PCB CN702-1	24V 0V AA_P231B0	DC+24V power supply
8	—	—	—	—
9	VP	High voltage power supply (1) PCB CN701-7	24V 0V AA_P231B0	DC+24V power supply
10	VL	Waste toner bottle full sensor CNTFJ-3, CNTF-1	5V 0V AA_P214B0	DC+5 power supply

(CN3)

Pin No.	Signal Name	Destination	Status	Function
11	PGND	High voltage power supply (1) PCB CN701-6	0V	Power ground
12	TFSN	Wast toner bottle full sensor CNTFJ-2, CNTF-2	5V Full 0V AA_P219B0	waste toner bottle full sensor ON/OFF signal
13	HVCNT1	High voltage power supply (1) PCB CN701-5	24V ON OFF 0V AA_P218B0	High voltage power supply (1) unit ON/OFF signal (for Charge, Transfer and Grid)
14	GND	Waste toner bottle full sensor CNTFJ-1, CNTF-3	0V	Ground
15	GBCNT	High voltage power supply (1) PCB CN701-4	0V - 10V Approx. 8V - 9V	Grid voltage control signal
16	CDSN2	Copy density sensor CNCD-5, CN501-5	Analogue level	Copy density sensor output signal (2)
17	HVLK1	High voltage power supply (1) PCB CN701-3	5V Leak 0V AA_P217B0	Self-diagnostic input signal for high voltage leak (1) +5V: Normal 0V: Leak
18	CDSN	Copy density sensor CNCD-4, CN501-4	Analogue level	Copy density sensor output signal
19	BCNT	High voltage power supply (1) PCB CN701-2	0V - 10V Approx. 5V	Bias voltage control signal
20	GND	Copy density sensor CNCD-3, CN501-3	0V	Ground

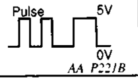
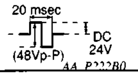
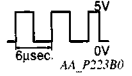
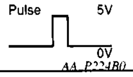
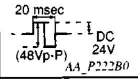
(CN3)

Pin No.	Signal Name	Destination	Status	Function
21	HVCNT	High voltage power supply (1) PCB CN701-1	24V ON OFF 0V AA_P218B0	Bias voltage ON/OFF signal
22	VL	Copy density sensor CNCD-2, CN501-2	5V 0V AA_P214B0	DC+5V power supply
23	VP	—	—	—
24	CDCNT	Copy density sensor CNCD-1, CN501-1	10V OFF ON 0V AA_P220B0	Copy density sensor, LED ON/OFF signal
25	HSOL	—	—	—
26	—	—	—	—

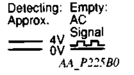
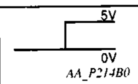
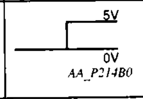
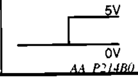
(CN4)

Pin No.	Signal Name	Destination	Status	Function
1	ELP	Discharge lamp CNEL-3	24V ON OFF 0V AA_P218B0	Discharge lamp ON/OFF signal
2	TDCNT	Developer unit CNDU-3,CNCDU-3 (Black/Color) sensor CNTD-1, CNCTD-1	5V - 9V max (Approx.6.5V)	Toner density gain control signal
3	VP	Discharge lamp CNEL-1	24V 0V AA_P231B0	DC+24V power supply
4	VP	Developer unit CNDU-4,CNCDU-4 (Black/Color) sensor CNTD-2, CNCTD-2	24V 0V AA_P231B0	DC+24V power supply
5	—	—	—	—
6	TDSN	Developer unit CNDU-5, CNCDU-5, Toner density (Black/Color) sensor CNTD-3, CNCTD-3	2.5V - 4V (Approx. 3V)	Toner density sensor output signal
7	CUI	Developer unit CNDU-1, CNCDU-1, Color unit detecting sensor CNCUS-1	Black: Approx. 5V Red: 0V Blue: Approx. 3.3V	Color toner discrimination signal
8	GND	Developer unit CNDU-6, CNCDU-6, Toner density (Black/Color) sensor CNTD-4, CNCTD-4	0V	Ground
9	—	—	—	—

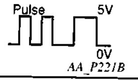
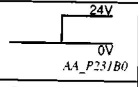
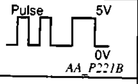
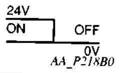
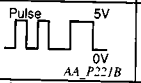
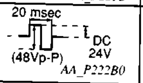
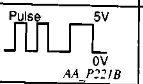
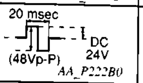
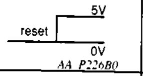
(CN4)

Pin No.	Signal Name	Destination	Status	Function
10	DATA1	LED array PCB CN901-A	 Pulse 5V 0V AA_P221B	LED array data signal
11	BMT1	Devolper unit CNDU-7, CNCDU-7, Bottle (Color) motor CNCBM-1	 20 msec DC 24V (48Vp-P) AA_P222B0	Bottle motor teminal (1)
12	CK	LED array PCB CN901-C	 5V 6μsec. 0V AA_P223B0	LED array transmission clock signal
13	BMT2	Developer unit CNDU-9, CNCDU-9, Bottle (Color) motor CNCBM-2	—	—
14	LATCH	LED array PCB CN901-D	 Pulse 5V 0V AA_P224B0	LED array data latch signal
15	BMT3	Devloper unit CNDU-8, CNCDU-8	 20 msec DC 24V (48Vp-P) AA_P222B0	Bottle motor terminal (3)
16	GND	LED array PCB CN901-E	0V	Ground
17	—	—	—	—
18	GNDT	LED array PCB. CN901-F	0V	Ground

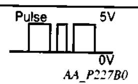
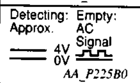
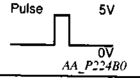
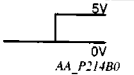
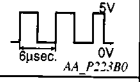
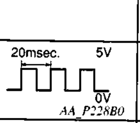
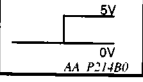
(CN4)

Pin No.	Signal Name	Destination	Status	Function
19	GND	Developer unit CNDU-10, CNCDU-10 Toner level (Color) sensor CNCTE-1, Color unit detecting sensor CNCUS-2	0V	Ground
20	GNDT	LED array PCB CN901-G	0V	Ground
21	CTED	Developer unit CNDU-11, CNCDU11, Toner level (Color) sensor CNCTE-2	 Detecting: Approx. Empty: AC Signal 4V 0V AA_P225B0	Toner level (color) detecting signal
22	VL	LED array PCB CN901-H	 5V 0V AA_P214B0	DC+5V power supply
23	VL	Developer unit CNDU-12, CNCDU-12, Toner level (color) sensor CNCTE-3	 5V 0V AA_P214B0	DC+5V power supply
24	VL	LED array PCB CN901-I	 5V 0V AA_P214B0	DC+5V power supply

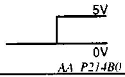
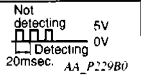
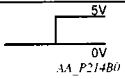
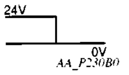
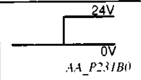
(CN6)

Pin No.	Signal Name	Destination	Status	Function
1	CPMT4	Control panel (1) PCB CN401-1	 Pulse 5V 0V AA_P221B	Key matrix data signal (4)
2	VP	Total counter CNCT-1	 24V 0V AA_P231B0	DC+24V power supply
3	CPMT3	Control panel (1) PCB CN401-2	 Pulse 5V 0V AA_P221B	Key matrix data signal (3)
4	CT	Total counter CNCT-2	 24V ON OFF 0V AA_P218B0	Total counter ON/OFF signal
5	CPMT2	Control panel (1) PCB CN401-3	 Pulse 5V 0V AA_P221B	Key matrix data signal (2)
6	BMT3	Bottle motor CNBM-1	 20 msec DC 24V (48Vp-P) AA_P222B0	Bottle motor terminal (3)
7	CPMT1	Control panel (1) PCB CN401-4	 Pulse 5V 0V AA_P221B	Key matrix data signal (1)
8	BMT2	Bottle motor CNBM-2	 20 msec DC 24V (48Vp-P) AA_P222B0	Bottle motor terminal (2)
9	CPRES	Control panel (1) PCB CN401-5	 5V reset 0V AA_P226B0	Control panel reset signal
10	GND	Toner level sensor CNTD-1	0V	Ground

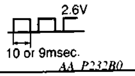
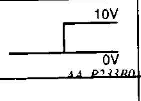
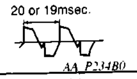
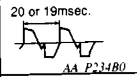
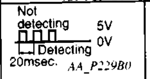
(CN6)

Pin No.	Signal Name	Destination	Status	Function
11	CPDATA	Control panel (1) PCB CN401-6	 Pulse 5V 0V AA_P227B0	Control panel transmission data
12	TED	Toner level sensor CNTD-2	 Detecting: Approx. Empty: AC Signal 4V 0V AA_P225B0	Toner level detecting signal
13	CPLATCH	Control panel (1) PCB CN401-7	 Pulse 5V 0V AA_P224B0	Control panel transmission data latch signal
14	VL	Toner level sensor CNTD-3	 5V 0V AA_P214B0	DC+5V power supply
15	CPCK	Control panel (1) PCB CN401-8	 5V 6μsec. 0V AA_P223B0	Control panel transmission clock signal
16	GND	Toner bottle position sensor CNBP-1	0V	Ground
17	GND	Control panel (1) PCB CN401-9	0V	Ground
18	BPSN	Toner bottle position sensor CNBP-2	 20msec. 5V 0V AA_P228B0	Toner bottle position sensor output signal
19	GND	Control panel (1) PCB CN401-10	0V	Ground
20	VL	Toner bottle position sensor CNBP-3	 5V 0V AA_P214B0	DC+5V power supply

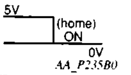
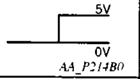
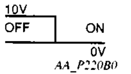
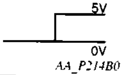
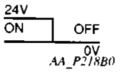
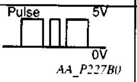
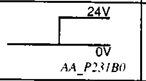
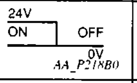
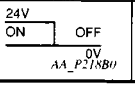
(CN6)

Pin No.	Signal Name	Destination	Status	Function
21	VL	Control panel (1) PCB CN401-11	 5V 0V AA_P214B0	DC+5V power supply
22	KCS	Key counter CNKC-4	 Not detecting 5V 0V Detecting 20msec. AA_P229B0	Key counter detecting signal
23	VL	Control panel (1) PCB CN401-12	 5V 0V AA_P214B0	DC+5V power supply
24	GND	Key counter CNKC-3	0V	Ground
25	—	—	—	—
26	KCT	Key counter CNKC-2	 24V 0V AA_P230B0	Key counter ON/OFF signal
27	—	—	—	—
28	VP	Key counter CNKC-1	 24V 0V AA_P231B0	DC+24V power supply

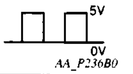
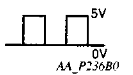
(CN7)

Pin No.	Signal Name	Destination	Status	Function
1	GNDO	AC driver PCB CN204-10	0V	Ground
2	TH1	Fuser unit CNTH-2	2.8 - 4.5V	Fuser thermistor terminal (1) (NOTE: 190°C-Approx. 3V)
3	ZCRS	AC driver PCB CN204-9	 2.6V 10 or 9msec. AA_P232B0	Zero cross signal
4	TH2	Fuser unit CNTH-1	Approx. 0.6V	Fuser thermistor terminal (2)
5	VO	AC driver PCB CN204-5	 10V 0V AA_P233B0	DC+10V power supply
6	—	—	—	—
7	LFB2	AC driver PCB CN204-4	 20 or 19msec. AA_P234B0	Voltage feed badk (2) for exposure lamp
8	GND	Paper exit sensor CNEC-3, CNE-1	0V	Ground
9	LFB1	AC driver PCB CN204-3	 20 or 19msec. AA_P234B0	Voltage feed badk (1) for exposure lamp
10	PFOSN	Paper exit sensor CNEC-2, CNE-2	 Not detecting 5V 0V Detecting 20msec. AA_P229B0	Paper exit sensor ON/OFF signal

(CN7)

Pin No.	Signal Name	Destination	Status	Function
11	LPTR	AC driver PCB CN204-2	 5V (home) ON 0V AA_P235B0	Exposure lamp ON/OFF signal (NOTE: Pulse width differs from lamp voltage)
12	VL	Paper exit sensor CNEC-1, CNE-3	 5V 0V AA_P214B0	DC+5V power supply
13	HTTR	AC driver PCB CN204-1	 10V OFF ON 0V AA_P220B0	Fuser lamp ON/OFF signal
14	VL	Door sensor CNDO-3	 5V 0V AA_P214B0	DC+5V power supply
15	WBSOL	Cleaning web solenoid CNWB-2	 24V ON OFF 0V AA_P218B0	Cleaning web solenoid ON/OFF signal
16	DOSN	Door sensor CNDO-2	 Pulse 5V 0V AA_P227B0	Copier door sensor signal
17	VP	Cleaning web solenoid CNWB-1	 24V 0V AA_P231B0	DC+24V power supply
18	GND	Door sensor CNDO-1	0V	Ground
19	EXFSO1	Fuser cooling fan motor (1) CNFC-4, CNFC1-1	 24V ON OFF 0V AA_P218B0	Fuser cooling fan motor (1) ON/OFF signal
20	EXFSO2	Fuser cooling fan motor (2) CNFC-1, CNFC2-1	 24V ON OFF 0V AA_P218B0	Fuser cooling fan motor (2) ON/OFF signal

(CN7)

Pin No.	Signal Name	Destination	Status	Function
21	EXFLCK1	Fuser cooling fan motor (1) CNFC-5, CNFC1-2	 5V 0V AA_P236B0	Fuser cooling fan motor (1) clock signal
22	EXFLCK2	Fuser cooling fan motor (2) CNFC-2, CNFC2-2	 5V 0V AA_P236B0	Fuser cooling fan motor (2) clock signal
23	PGND	Fuser cooling fan motor (1) CNFC-6, CNFC1-3	0V	Power ground
24	PGND	Fuser cooling fan motor (2) CNFC-3, CNFC2-3	0V	Power ground

(CN8) Note: FP-1680 (1, 3, 13 and 15 do not apply)

Pin No.	Signal Name	Destination	Status	Function
1	HFSOL	Sheet bypass solenoid CNHF-2	24V ON OFF 0V AA_P218B0	Sheet bypass solenoid ON/OFF signal
2	RRCR	Timing roller clutch CNCR4-1	24V ON OFF 0V AA_P218B0	Timing roller clutch ON/OFF signal
3	VP	Sheet bypass solenoid CNHF-1	24V 0V AA_P231B0	DC+24V power supply
4	VP	Timing roller clutch CNCR4-2	24V 0V AA_P231B0	DC+24V power supply
5	VP	Sheet bypass paper feed clutch CNCR3-2	24V 0V AA_P231B0	DC+24V power supply
6	VL	Sheet bypass paper detecting sensor CNHE-3	24V 0V AA_P231B0	DC+5V power supply
7	HFCR	Sheet bypass paper feed clutch CNCR3-1	24V ON OFF 0V AA_P218B0	Sheet bypass paper feed clutch ON/OFF signal
8	HPESN	Sheet bypass paper detecting sensor CNHE-2	Not detecting 5V 0V Detecting 20msec. AA_P229B0	Sheet bypass paper detecting sensor ON/OFF signal
9	PFCR	Paper feed roller clutch CNCR1-1	24V ON OFF 0V AA_P218B0	Copier paper feed roller clutch ON/OFF signal
10	GND	Sheet bypass paper detecting sensor CNHE-1	0V	Ground

(CN8)

Pin No.	Signal Name	Destination	Status	Function
11	VP	Paper feed roller clutch CNCR1-2	24V 0V AA_P231B0	DC+24V power supply
12	-	-	-	-
13	VP	Paper feed transport roller clutch CNCR2-2	24V 0V AA_P231B0	DC+24V power supply
14	-	-	-	-
15	SRCR	Paper feed transport roller clutch CNCR2-1	24V ON OFF 0V AA_P218B0	Paper feed transport roller clutch ON/OFF signal
16	-	-	-	-
17	GND	Paper pass sensor CNSP-1	0V	Ground
18	VL	Timing roller sensor CNRR-3	5V 0V AA_P214B0	DC+5V power supply
19	SPSN	Paper pass sensor CNSP-2	5V OFF ON 0V AA_P213B0	Copier paper pass sensor signal
20	RRSN	Timing roller sensor CNRR-2	5V OFF ON 0V AA_P213B0	Timing roller sensor ON/OFF signal

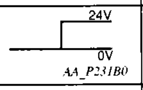
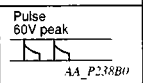
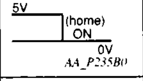
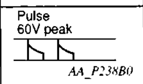
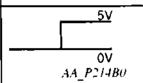
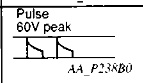
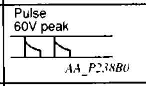
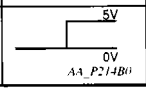
(CN8)

Pin No.	Signal Name	Destination	Status	Function
21	VL	Paper pass sensor CNSP-3	5V 0V AA_P214B0	DC+5V power supply
22	GND	Timing roller sensor CNRR-1	0V	Ground
23	GND	Paper detecting sensor CNPE-1	0V	Ground
24	GND	Paper feed door sensor CNPO-1	0V	Power ground
25	PESN	Paper detecting sensor CNPE-2	Not detecting 5V 0V Detecting 20msec. AA_P229B0	Paper detecting sensor signal
26	POSN	Paper feed door sensor CNPO-2	Open 5V Close 0V 20msec. AA_P237B0	Paper feed door sensor signal
27	VL	Paper detecting sensor CNPE-3	5V 0V AA_P214B0	DC+5V power supply
28	VL	Paper feed door sensor CNPO-3	5V 0V AA_P214B0	DC+5V power supply

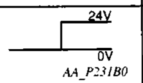
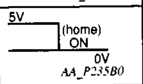
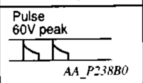
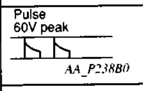
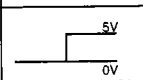
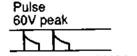
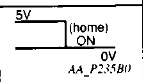
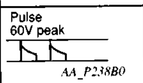
(CN10)

Pin No.	Signal Name	Destination	Status	Function
1	ACP	Lamp unit scanner motor CNLM-1	Pulse 60V peak AA_P238B0	Lamp unit scanner motor drive signal (A)
2	COM	Lamp unit scanner motor CNLM-2	24V 0V AA_P231B0	DC+24V power supply (for lamp unit scanner motor)
3	AP	Lamp unit scanner motor CNLM-3	Pulse 60V peak AA_P238B0	Lamp unit scanner motor drive signal (A)
4	BCP	Lamp unit scanner motor CNLM-4	Pulse 60V peak AA_P238B0	Lamp unit scanner motor drive signal (B)
5	COM	Lamp unit scanner motor CNLM-5	24V 0V AA_P231B0	DC+24V power supply (for lamp unit scanner motor)
6	BP	Lamp unit scanner motor CNLM-6	Pulse 60V peak AA_P238B0	Lamp unit scanner motor drive signal (B)

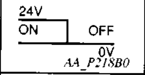
(CN11)

Pin No.	Signal Name	Destination	Status	Function
1	COMM	Mirror stepping motor CNMSM-1	 24V 0V AA_P231B0	Mirror stepping motor common
2	GND	Optics home position sensor CNC-3	0V	Ground
3	BCPM	Mirror stepping motor CNMSM-2	 Pulse 60V peak AA_P238B0	Mirror stepping motor drive signal (B)
4	HPSN	Optics home position sensor CNC-2	 5V (home) ON 0V AA_P235B0	Optics home position sensor ON/OFF signal
5	ACPM	Mirror stepping motor CNMSM-3	 Pulse 60V peak AA_P238B0	Mirror stepping motor drive signal (A)
6	VL	Optics home position sensor CNC-1	 5V 0V AA_P214B0	DC+5V power supply
7	BPM	Mirror stepping motor CNMSM-4	 Pulse 60V peak AA_P238B0	Mirror stepping motor drive signal (B)
8	—	—	—	—
9	APM	Mirror stepping motor CNMSM-5	 Pulse 60V peak AA_P238B0	Mirror stepping motor drive signal (A)
10	VL	Lens home position sensor CNB-3	 5V 0V AA_P214B0	DC+5V power supply

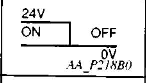
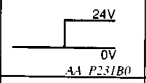
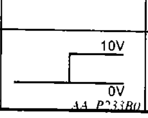
(CN11)

Pin No.	Signal Name	Destination	Status	Function
11	COML	Lens stepping motor CNLSM-1	 24V 0V AA_P231B0	Lens stepping motor common
12	LHPSN	Lens home position sensor CNB-2	 5V (home) ON 0V AA_P235B0	Lens home position sensor ON/OFF signal
13	BCPL	Lens stepping motor CNLSM-2	 Pulse 60V peak AA_P238B0	Lens stepping motor drive signal (B)
14	GND	Lens home position sensor CNB-1	0V	Ground
15	ACPL	Lens stepping motor CNLSM-3	 Pulse 60V peak AA_P238B0	Lens stepping motor drive signal (A)
16	VL	Mirror home position sensor CNA-3		DC+5V power supply
17	BPL	Lens stepping motor CNLSM-4	 Pulse 60V peak AA_P238B0	Lens stepping motor drive signal (B)
18	MHPSN	Mirror home position sensor CNA-2	 5V (home) ON 0V AA_P235B0	Mirror home position sensor ON/OFF signal
19	APL	Lens stepping motor CNLSM-5	 Pulse 60V peak AA_P238B0	Lens stepping motor drive signal (A)
20	GND	Mirror home position sensor CNA-1	0V	Ground

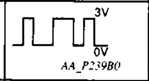
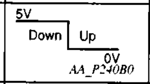
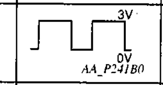
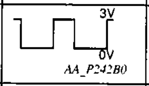
(CN11)

Pin No.	Signal Name	Destination	Status	Function
21	LPFM	Optics cooling fan motor CNLPF-1	 24V ON OFF 0V AA_P218B0	Optics cooling fan motor ON/OFF signal
22	PGND	Optics cooling fan motor CNLPF-2	0V	Power ground

(CN12)

Pin No.	Signal Name	Destination	Status	Function
1	AESOL	Auto original density solenoid CNAE-2	 24V ON OFF 0V AA_P218B0	Auto original density solenoid ON/OFF signal
2	VP	Auto original density solenoid CNAE-1	 24V 0V AA_P231B0	DC+24V power supply
3	AESN	Auto original density sensor CN551-3	(4-4 V max) Approx. 3V	Auto original density sensor output signal
4	GND	Auto original density sensor CN551-2	0V	Ground
5	VO	Auto original density sensor CN551-1	 10V 0V AA_P233B0	DC+10V power supply

(CN13)

Pin No.	Signal Name	Destination	Status	Function
1	IADFRX	ADF connector-1	 3V 0V AA_P239B0	ADF reverse receiving signal
2	ADFRX	ADF connector-2	 5V Down Up 0V AA_P240B0	ADF receiving signal
3	GND	ADF connector-3	0V	Ground
4	IADFTX	ADF connector-4	 3V 0V AA_P241B0	ADF reverse transmission signal
5	ADFTX	ADF connector-5	 3V 0V AA_P242B0	ADF transmission signal
6	TESTID	—	—	—
7	—	—	—	—

(CN14)

Pin No.	Signal Name	Destination	Status	Function
1	STMCNT	Sorter CNST-12	5V OFF ON 0V AB_P062U0	Sorter bin motor ON/OFF signal
2	STMRCNT	Sorter CNST-11	5V Down Up 0V AB_P063U0	Sorter bin motor down/up signal
3	STPDSN	Sorter CNST-10	24V ON OFF 0V AA_P218B0	Sorter paper feed motor ON/OFF signal
4	STPDSN	Sorter CNST-9	Not detecting 5V 0V Detecting 20msec. AA_P229B0	Sorter paper detecting sensor signal
5	STBSN	Sorter CNST-8	5V ON 0V AB_P064U0	Cam switch signal
6	STBHSN	Sorter CNST-7	home other AB_P065U0	Sorter bin home position sensor signal
7	STID	Sorter CNST-6	No 5V Yes 20msec. 0V AB_P066U0	Sorter discrimination signal
8	STOP	Sorter CNST-5	Open Close 5V 0V 20msec. AB_P067U0	Sorter top cover switch and sorter open/close detecting switch signal
9	GND	Sorter CNST-4	0V	Ground
10	VL	Sorter CNST-3	5V 0V AA_P214B0	DC+5V power supply

(CN14)

Pin No.	Signal Name	Destination	Status	Function
11	PGND	Sorter CNST-2	0V	Power ground
12	VP	Sorter CNST-1	24V 0V AA_P231B0	DC+24V power

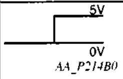
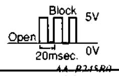
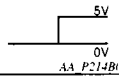
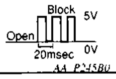
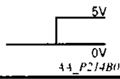
(CN15)

Pin No.	Signal Name	Destination	Status	Function
1	PGND	Low voltage power supply PCB CN803-1	0V	Power ground
2	VPAS	VP switch CNVPS-2	24V Door open Close 0V AA_P243B0	DC+24V power supply
3	PGND	Low voltage power supply PCB CN803-3	0V	Power ground
4	VPAS	VP switch CNVPS-4	24V Door open Close 0V AA_P243B0	DC+24V power supply (CPU input)

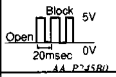
(CN16)

Pin No.	Signal Name	Destination	Status	Function
1	VP	System console or paper dwawer driver PCB CN611-10	24V 0V AA_P231B0	DC+24V power supply
2	PGND	System console or paper dwawer driver PCB CN611-9	0V	Power ground
3	PFMCNT	System console or paper dwawer driver PCB CN611-8	24V ON OFF 0V AA_P218B0	Paper feed motor (System Console) ON/OFF signal
4	PFMLCK	System console or paper dwawer driver PCB CN611-7	Pulse (When normal) AA_P244B0	Paper feed motor (System Console) lock signal
5	CRRCNT	System console or paper dwawer driver PCB CN611-6	5V OFF ON 0V AA_P213B0	System Console timing roller clutch ON/OFF signal
6	HDOSN	System console or paper dwawer driver PCB CN611-5	—	—
7	QDOSN	System console or paper dwawer driver PCB CN611-4	24V ON OFF 0V AA_P218B0	Paper feed door sensor (System Console) signal
8	RVCNT	System console or paper dwawer driver PCB CN611-3	24V ON OFF 0V AA_P218B0	Paper return solenoid ON/OFF signal
9	GND	System console or paper dwawer driver PCB CN611-2	0V	Ground
10	VL	System console or paper dwawer driver PCB CN611-1	5V 0V AA_P214B0	DC+5V power supply

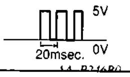
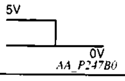
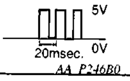
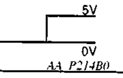
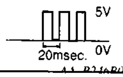
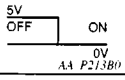
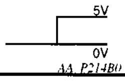
(CN17) (FP-2080)

Pin No.	Signal Name	Destination	Status	Function
1	VL	Sheet bypass paper size detecting sensor CNS-3, CNS4-3	 5V 0V AA_P214B0	DC+5V power supply
2	HPSL	Sheet bypass paper size detecting sensor CNS-2, CNS4-2	 Block 5V Open 20msec. 0V AA_P245B0	Sheet bypass size detectng sensor signal
3	GND	Sheet bypass paper size detecting sensor CNS-1, CNS4-1	0V	Ground
4	—	—	—	—
5	—	—	—	—
6	—	—	—	—
7	VL	Sheet bypass paper size detecting sensor CNS2-3	 5V 0V AA_P214B0	DC+5V power supply
8	HPS2	Sheet bypass paper size detecting sensor CNS2-2	 Block 5V Open 20msec 0V AA_P245B0	Sheet bypass paper size detecting sensor signal (2)
9	GND	Sheet bypass paper size detecting sensor CNS2-1	0V	Ground
10	VL	Sheet bypass paper size detecting sensor CNS1-3	 5V 0V AA_P214B0	DC+5V power supply

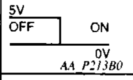
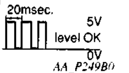
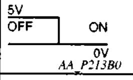
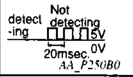
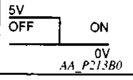
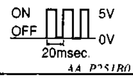
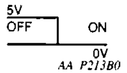
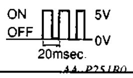
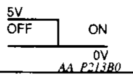
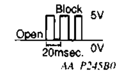
(CN17)

Pin No.	Signal Name	Destination	Status	Function
11	HPS1	Sheet bypass paper size detecting sensor CNS1-2	 Block 5V Open 20msec 0V AA_P245B0	Sheet bypass paper size detecting sensor signal (1)
12	GND	Sheet bypass paper size detecting sensor CNS1-1	0V	Ground

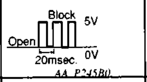
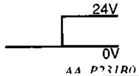
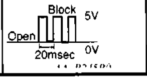
(CN18)

Pin No.	Signal Name	Destination	Status	Function
1	—	—	—	—
2	—	—	—	—
3	CSL3	Optional Paper drawer P.C.B CN641-21	 5V 20msec. 0V AA_P246B0	Optional paper drawer (lower stage) sensor select signal
4	CPESN	Optional Paper drawer P.C.B. CN641-22	 5V 0V AA_P247B0	Paper drawer (option) paper detecting sensor, Thousand sheet paper drawer (option) paper pass sensor signal
5	CSL2	Optional Paper drawer P.C.B CN641-19	 5V 20msec. 0V AA_P246B0	Optional Paper drawer (middle stage) sensor select signal
6	VL	Optional Paper drawer P.C.B CN641-20	 5V 0V AA_P214B0	DC+5V power supply
7	CSL1	Optional Paper drawer P.C.B CN641-17	 5V 20msec. 0V AA_P246B0	Optional paper drawer (upper stage) sensor select signal
8	GND	Optional Paper drawer P.C.B CN641-18	0V	Ground
9	PLMCT3	Optional Paper drawer P.C.B CN641-15	 5V OFF ON 0V AA_P213B0	Optional paper drawer (lower stage) roller level motor ON/OFF signal
10	LCFRCT	Optional Paper drawer P.C.B CN641-16	 5V 0V AA_P214B0	Thousand sheet paper drawer (lower stage) level motor down/up signal

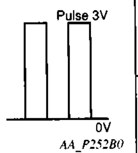
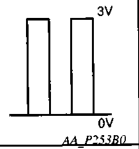
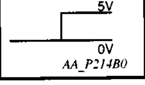
(CN18)

Pin No.	Signal Name	Destination	Status	Function
11	CPFCT3	Optional Paper drawer P.C.B CN641-13	 5V OFF ON 0V AA_P213B0	Optional paper drawer (lower stage) paper feed roller clutch ON/OFF signal
12	PLSN	Optional Paper drawer P.C.B CN641-14	 20msec. 5V level OK 0V AA_P249B0	Optional paper drawer level sensor signal
13	PLMCT2	Optional Paper drawer P.C.B CN641-11	 5V OFF ON 0V AA_P213B0	Optional paper drawer (middle stage) roller level motor ON/OFF signal
14	CRRSN	Optional Paper drawer P.C.B CN641-12	 Not detecting detect -ing 5V 20msec. 0V AA_P250B0	Optional paper drawer registration sensor signal
15	CPFCT2	Optional Paper drawer P.C.B CN641-9	 5V OFF ON 0V AA_P213B0	Optional paper drawer (middle stage) paper feed roller clutch ON/OFF signal
16	USSW2	Optional Paper drawer P.C.B CN641-10	 ON OFF 5V 0V 20msec. AA_P251B0	Optional paper drawer discrimination signal (2)
17	PLMCT1	Optional Paper drawer P.C.B CN641-7	 5V OFF ON 0V AA_P213B0	Optional paper drawer (upper stage) roller level motor ON/OFF signal
18	USSW1	Optional Paper drawer P.C.B CN641-8	 ON OFF 5V 0V 20msec. AA_P251B0	Optional paper drawer discrimination signal (1)
19	CPFCT1	Optional Paper drawer P.C.B CN641-5	 5V OFF ON 0V AA_P213B0	Optional paper drawer (upper stage) paper feed roller clutch ON/OFF signal
20	PSSW3	Optional Paper drawer P.C.B CN641-6	 Block 5V Open 20msec. 0V AA_P245B0	Optional paper drawer paper size detecting sensor select signal (3)

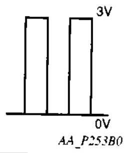
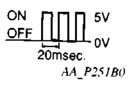
(CN18)

Pin No.	Signal Name	Destination	Status	Function
21	PGND	Optional Paper drawer P.C.B CN641-3	0V	Ground
22	PSSW2	Optional Paper drawer P.C.B CN641-4	 Block 5V Open 0V 20msec. AA_P245B0	Optional paper drawer paper size detecting sensor select signal (2)
23	VP	Optional Paper drawer P.C.B CN641-1	 24V 0V AA_P231B0	DC+24V power supply
24	PSSW1	Optional Paper drawer P.C.B CN641-2	 Block 5V Open 0V 20msec	Optional paper drawer paper size detecting sensor select signal (1)

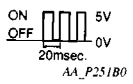
(CN19) (FP-2080)

Pin No.	Signal Name	Destination	Status	Function
1	IADRX	Duplex unit CNAD-1	 Pulse 3V 0V AA_P252B0	Duplex unit reverse receiving signal
2	ADRX	Duplex unit CNAD-2		Duplex unit receiving signal
3	GND	Duplex unit CNAD-3	0V	Ground
4	IADTX	Duplex unit CNAD-4	 3V 0V AA_P253B0	Duplex unit reverse transmission signal
5	ADTX	Duplex unit CNAD-5		Duplex unit transmission signal
6	VL	Duplex unit CNAD-6	 5V 0V AA_P214B0	DC+5V power supply

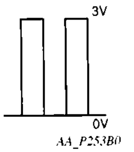
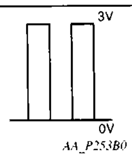
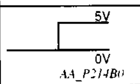
(CN20) (FP-2080)

Pin No.	Signal Name	Destination	Status	Function
1	ISTRX	Sorter CNST-1	 3V 0V AA_P253B0	Sorter reverse receiving signal
2	STRX	Sorter CNST-2		Sorter receiving signal
3	GND	Sorter CNST-3	0V	Ground
4	ISTTX	Sorter CNST-4	 ON OFF 5V 0V 20msec. AA_P251B0	Sorter reverse transmission signal
5	STTX	Sorter CNST-5		Sorter transmission signal
6	—	—	—	—

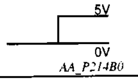
(CN22)

Pin No.	Signal Name	Destination	Status	Function
1	GND	Paper size detecting sensor CNPS-1	0V	Ground
2	CIC	Paper size detecting sensor CNPS-2	 ON OFF 5V 0V 20msec. AA_P251B0	Copier paper drawer size detecting sensor signal (C)
3	CIB	Paper size detecting sensor CNPS-3		Copier paper drawer size detecting sensor signal (B)
4	CIA	Paper size detecting sensor CNPS-4		Copier paper drawer size detecting sensor signal (A)

(CN25)

Pin No.	Signal Name	Destination	Status	Function
1	IRMRX	Optional remote diagnostic		Remote diagnostec reverse receiving signal
2	RMRX	Optional remote diagnostic		Remote diagnostic receiving signal
3	GND	Optional remote diagnostic	0V	Ground
4	IRMTX	Optional remote diagnostic		Remote diagnostic reverse transmission signal
5	RMTX	Optional remote diagnostic		Remote diagnostic transmission signal
6	VL	Optional remote diagnostic		DC+5V power supply

(CN26) (FP-2080)

Pin No.	Signal Name	Destination	Status	Function
1	VL	CNH-1, Temperature/ Humidity sensor CNHUM-1		DC+5V power supply
2	HUMS	CNH-2, Temperature/ Humidity sensor CNHUM-2	0 - 3.5V DC	Humidity sensor input signal
3	GND	CNSHT-1, CNH-3,5 Temperature/ Humidity sensor CMHUM-3,5	0V	Ground
4	THD	CNH-4, Temperature/ Humidity sensor CNHUM-4	0 - 5V DC	Temperature sensor input signal

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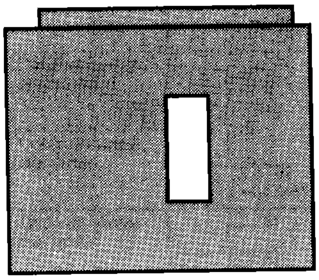
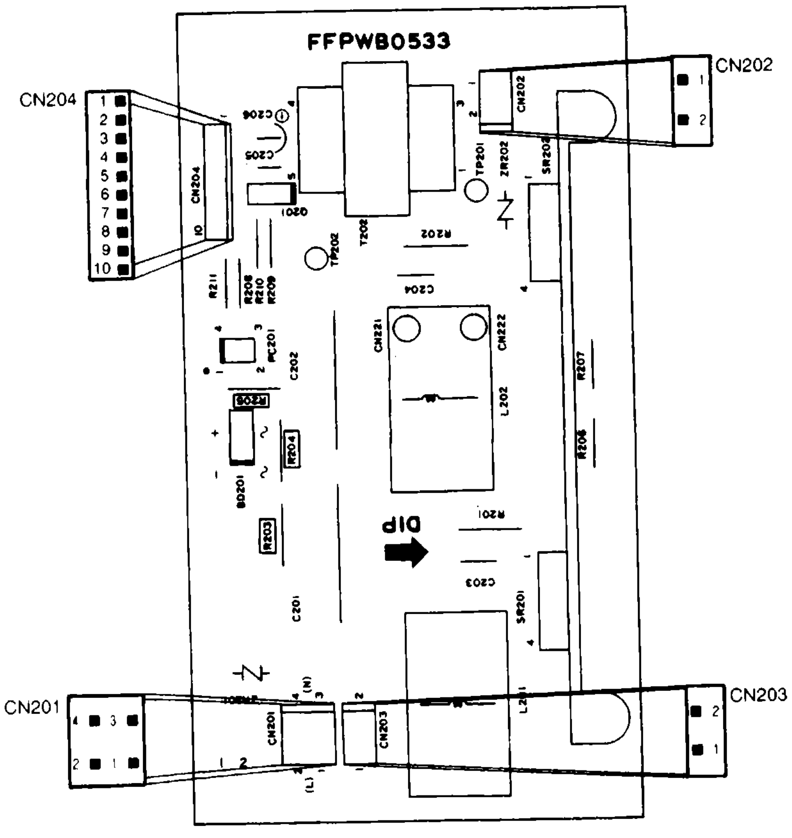
(Blank)

AC driver PCB

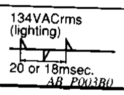



FFPWB0533
CN202
CN204
CN201
CN203
CN221
CN222
L202
L201
T202
TP201
TP202
ZR202
SR202
SR201
R202
R201
R203
R204
R205
R206
R207
R208
R210
R209
R211
C201
C202
C203
C204
C205
C206
Q201
PC201
BD201
DIP
(N)
(L)
AA_S256B0

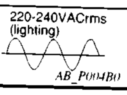
(CN201)

Pin No.	Signal Name	Destination	Status	Function
1	AC1	Door switch F15, Duplex unit CNOPD-1	AC220-240V	AC 220-240V power supply (Live)
2	AC1	Door switch F15, Duplex unit CNOPD-1	AC220-240V	AC 220-240V power supply (Live)
3	AC2	Door switch F16, Duplex unit CNOPD-2	AC220-240V	AC 220-240V power supply (Neutral)
4	AC2	Door switch F16, Duplex unit CNOPD-2	AC220-240V	AC 220-240V power supply (Neutral)

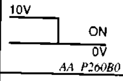
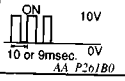
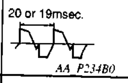
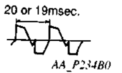
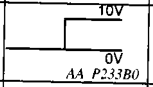
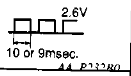
(CN202)

Pin No.	Signal Name	Destination	ON	OFF	Function
1	AC1	Lamp unit CNLP-1	AC220-240V		AC 220-240V power supply (Live)
2	EXLP	Lamp unit CNLP-2	 134VACrms (lighting) 20 or 18msec. AB_P003B0		Exposure lamp lighting

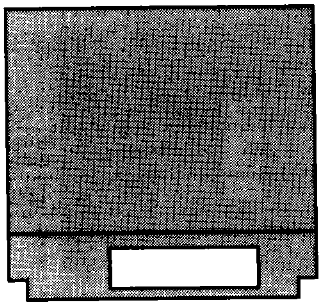
(CN203)

Pin No.	Signal Name	Destination	ON	OFF	Function
1	AC1	Fuser unit CNFU-1	AC220-240V		AC 220-240V power supply (Live)
2	FULP	Fuser unit CNFU-2	 220-240VACrms (lighting) AB_P004B0		Fuser lamp lighting

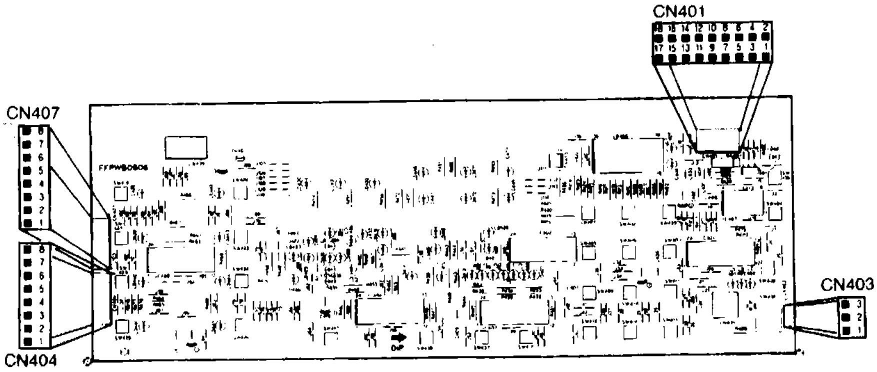
(CN204)

Pin No.	Signal Name	Destination	Status	Function
1	HTTR	CPU PCB CN7-13	 10V ON 0V AA_P260B0	Fuser lamp ON/OFF signal
2	LPTR	CPU PCB CN7-11	 ON 10V 10 or 9msec. 0V AA_P261B0	Exposure lamp ON/OFF signal (NOTE: Pulse width differs from lamp voltage)
3	LFB1	CPU PCB CN7-9	 20 or 19msec. AA_P234B0	Voltage feed back (1) for exposure lamp
4	LFB2	CPU PCB CN7-7	 20 or 19msec. AA_P234B0	Voltage feed back (2) for exposure lamp
5	VO	CPU PCB CN7-5	 10V 0V AA_P233B0	DC+10V power supply
6	—	—	—	—
7	—	—	—	—
8	—	—	—	—
9	ZCRS	CPU PCB CN7-3	 2.6V 10 or 9msec. AA_P232B0	Zero cross signal
10	GNDO	CPU PCB CN7-1	0V	Ground

Control panel (1) PCB

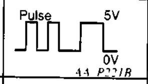
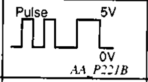
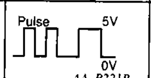
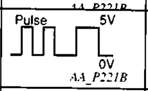
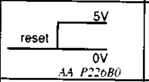
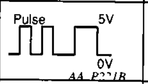
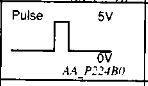
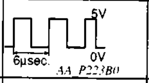


AA_P263B0

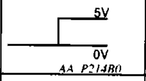
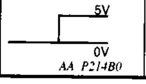

CN401
18 16 14 12 10 8 6 4 2
17 15 13 11 9 7 5 3 1
CN407
8 7 6 5 4 3 2 1
CN404
8 7 6 5 4 3 2 1
CN403
3 2 1
FFPWB0806

AB_S069U0

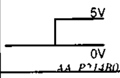
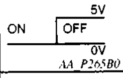
(CN401)

Pin No.	Signal Name	Destination	Status	Function
1	CPMT4	CPU PCB CN6-1	 AA_P221B	Key matrix data signal (4)
2	CPMT3	CPU PCB CN6-3	 AA_P221B	Key matrix data signal (3)
3	CPMT2	CPU PCB CN6-5	 AA_P221B	Key matrix data signal (2)
4	CPMT1	CPU PCB CN6-7	 AA_P221B	Key matrix data signal (1)
5	CPRES	CPU PCB CN6-9	 AA_P226B0	Control panel reset signal
6	CPDATA	CPU PCB CN6-11	 AA_P221B	Control panel transmission data
7	CPLATCH	CPU PCB CN6-13	 AA_P224B0	Control panel transmission data latch signal
8	CPCK	CPU PCB CN6-15	 AA_P223B0	Control panel transmission clock
9	GND	CPU PCB CN6-17	0V	Ground
10	GND	CPU PCB CN6-19	0V	Ground

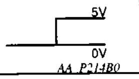
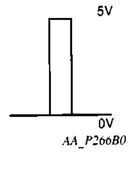
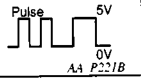
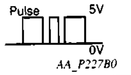
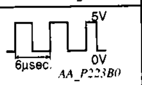
(CN401)

Pin No.	Signal Name	Destination	Status	Function
11	VL	CPU PCB CN6-21	 AA_P214B0	DC+5V power supply
12	VL	CPU PCB CN6-23	 AA_P214B0	DC+5V power supply

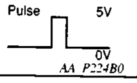
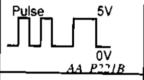
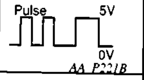
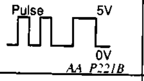
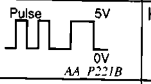
(CN403) (FP-2080)

Pin No.	Signal Name	Destination	Status	Function
1	VL	Control panel (3) PCB CN402-1	 5V 0V AA_P214B0	DC+5V power supply
2	PLCNT	Control panel (3) PCB CN402-2	 5V ON OFF 0V AA_P265B0	LED lighting signal
3	CPVR	Control panel (3) PCB CN402-3	—	—

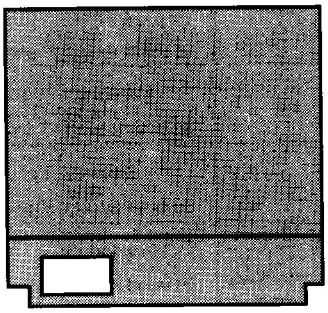
(CN404)

Pin No.	Signal Name	Destination	Status	Function
1	VL	Control panel (2) PCB CN406-1	 5V 0V AA_P214B0	DC+5V power supply
2	GND	Control panel (2) PCB CN406-2	0V	Ground
3	BOOK	Control panel (2) PCB CN406-3	 5V 0V AA_P266B0	Book data signal
4	STPL	Control panel (2) PCB CN406-4		Staple data signal
5	OVLY	Control panel (2) PCB CN406-5		Overlay data signal
6	CPRES	Control panel (2) PCB CN406-6	 Pulse 5V 0V AA_P221B	Control panel reset signal
7	CPDATA	Control panel (2) PCB CN406-7	 Pulse 5V 0V AA_P227B0	Control panel transmission data
8	CPCK	Control panel (2) PCB CN406-8	 5V 6µsec. 0V AA_P223B0	Control panel transmission clock

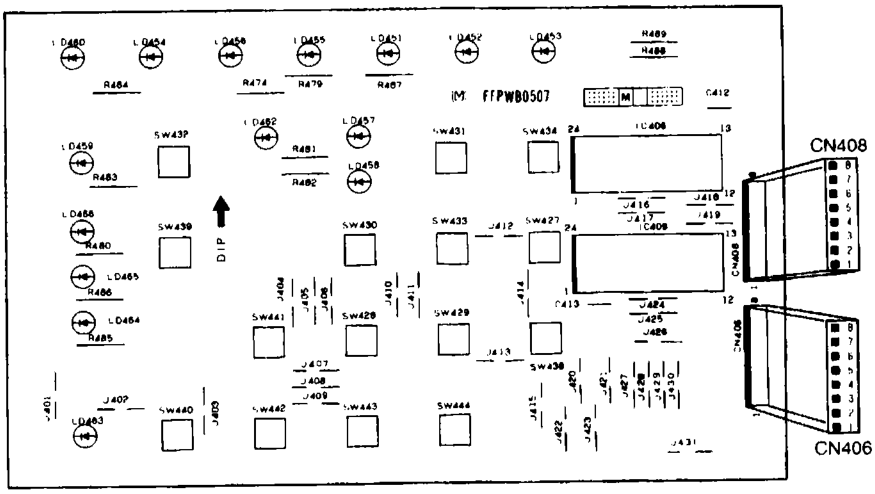
(CN407)

Pin No.	Signal Name	Destination	Status	Function
1	CPLATCH	Control panel (2) PCB CN408-1	 Pulse 5V 0V AA_P224B0	Control panel transmission data latch signal
2	CPMT1	Control panel (2) PCB CN408-2	 Pulse 5V 0V AA_P221B	Key matrix data signal (1)
3	CPMT2	Control panel (2) PCB CN408-3	 Pulse 5V 0V AA_P221B	Key matrix data signal (2)
4	CPMT3	Control panel (2) PCB CN408-4	 Pulse 5V 0V AA_P221B	Key matrix data signal (3)
5	CPMT4	Control panel (2) PCB CN408-5	 Pulse 5V 0V AA_P221B	Key matrix data signal (4)
6	TFUL	Control panel (2) PCB CN408-6	—	—
7	TENP	Control panel (2) PCB CN408-7	—	—
8	SCAL	Control panel (2) PCB CN408-8	—	—

Control panel (2) PCB

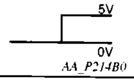
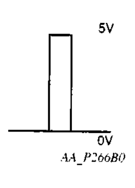
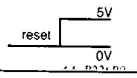
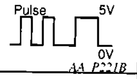
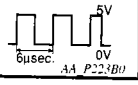


AA_P269B

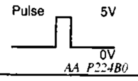
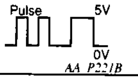
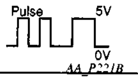
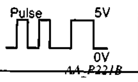
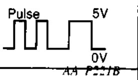

CN408
CN406
FFPWB0507
DIP
IC406
IC408
SW431
SW434
SW433
SW427
SW430
SW429
SW428
SW441
SW439
SW43P
SW440
SW442
SW443
SW444
SW438
LD480
LD454
LD456
LD455
LD451
LD452
LD453
LD459
LD462
LD457
LD458
LD466
LD465
LD464
LD463
R489
R488
R484
R474
R479
R487
R483
R481
R482
R480
R486
R485
C412
C413

AB_S070U0

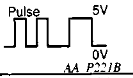
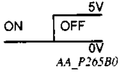
(CN406)

Pin No.	Signal Name	Destination	Status	Function
1	VL	Control panel (1) PCB CN404-1	 5V 0V AA_P214B0	DC+5V power supply
2	GND	Control panel (1) PCB CN404-2	0V	Ground
3	BOOK	Control panel (1) PCB CN404-3	 5V 0V AA_P266B0	Book data signal
4	STPL	Control panel (1) PCB CN404-4		Staple data signal
5	OVLY	Control panel (1) PCB CN404-5		Overlay data signal
6	CPRES	Control panel (1) PCB CN404-6		Control panel reset signal
7	CPDATA	Control panel (1) PCB CN404-7	 Pulse 5V 0V AA_P221B	Control panel transmission data
8	CPCK	Control panel (1) PCB CN404-8	 5V 6µsec. 0V AA_P223B0	Control panel transmission clock

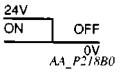
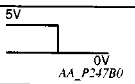
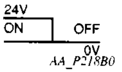
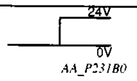
(CN408)

Pin No.	Signal Name	Destination	Status	Function
1	CPLATCH	Control panel (1) PCB CN407-1	 Pulse 5V 0V AA_P224B0	Control panel transmission data latch signal
2	CPMT1	Control panel (1) PCB CN407-2	 Pulse 5V 0V AA_P221B	Key matrix data signal (1)
3	CPMT2	Control panel (1) PCB CN407-3	 Pulse 5V 0V AA_P221B	Key matrix data signal (2)
4	CPMT3	Control panel (1) PCB CN407-4	 Pulse 5V 0V AA_P221B	Key matrix data signal (3)
5	CPMT4	Control panel (1) PCB CN407-5	 Pulse 5V 0V AA_P221B	Key matrix data signal (4)
6	TFUL	Control panel (1) PCB CN406-6	—	—
7	TEMP	Control panel (1) PCB CN407-7	—	—
8	SCAL	Control panel (1) PCB CN407-8	—	—

Control panel (3) PCB (FP-2080) (CN402)

Pin No.	Signal Name	Destination	Status	Function
1	VL	Control panel (1) PCB CN403-1	 Pulse 5V 0V AA_P221B	DC+5V power supply
2	PLCNT	Control panel (1) PCB CN403-2	 5V ON OFF 0V AA_P265B0	LED lighting signal
3	CPVR	Control panel (1) PCB CN403-3	—	—

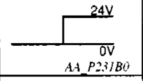
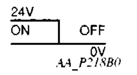
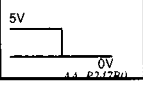
High voltage power supply (1) PCB (CN701)

Pin No.	Signal Name	Destination	Status	Function
1	HVCNT	CPU PCB CN3-21	 24V ON OFF 0V AA_P218B0	High voltage ON/OFF signal
2	BCNT	CPU PCB CN3-19	(0V-10V) Approx. 5V	Bias voltage control signal
3	HVLK1	CPU PCB CN3-17	 5V 0V AA_P247B0	Self-diagnostic input signal for high voltage leak (1) +5V: Normal 0V: Leak
4	GBCNT	CPU PCB CN3-15	(0V-10V) Approx. 5V	Grid voltage control signal
5	HVCNT1	CPU PCB CN3-13	 24V ON OFF 0V AA_P218B0	High voltage power supply (1) unit ON/OFF signal (for Charge, Transfer and Grid)
6	PGND	CPU PCB CN3-11	0V	Power ground
7	VP	CPU PCB CN3-9	 24V 0V AA_P231B0	24V power supply

High voltage power supply (1) PCB (CN703)

Pin No.	Signal Name	Destination	Status	Function
1	GB	A703	(–450V - -900V) -850V	Grid voltage output
2	—	—	—	—
3	SC	A702	0V	Shield current feed back terminal
4	—	—	—	—
5	Bias	F702	(-500V - –460V) –250V	Bias voltage output

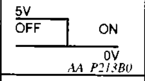
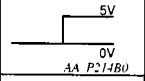
High voltage power supply (2) PCB
(CN702)

Pin No.	Signal Name	Destination	Status	Function
1	VP	CPU PCB CN3-7	 24V 0V AA_P231B0	DC+24V power supply
2	PGND	CPU PCB CN3-5	0V	Power ground
3	HVCNT2	CPU PCB CN3-3	 24V ON OFF 0V AA_P218B0	High voltage power supply (2) unit ON/OFF signal
4	HVLK2	CPU PCB CN3-1		Self-diagnostic input signal for high voltage leak (2) +5V: Normal 0V: Leak

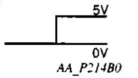
Low voltage power supply PCB
(CN801)

Pin No.	Signal Name	Destination	Status	Function
1	AC1	CNOP-1, Power switch F9, Door switch F13 CNOPS-1	AC220-240V	AC220-240V
2	—	—	—	—
3	AC2	CNOP-2, Power switch F10, Door switch F14 CNOPS-2	AC220-240V	AC220-240V

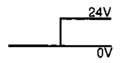
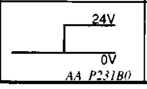
(CN802)

Pin No.	Signal Name	Destination	ON	OFF	Function
1	VCNT	CPU PCB CN1-1	 5V OFF ON 0V AA_P213B0		DC+24V power ON/OFF signal
2	GND	CPU PCB CN1-2	0V		Ground
3	VL	CPU PCB CN1-3	 5V 0V AA_P214B0		DC+5V power supply
4	GND	CPU PCB CN1-4	0V		Ground
5	GND	CPU PCB CN1-5	0V		Ground

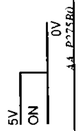
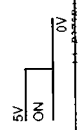
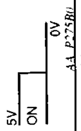
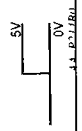
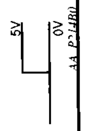
(CN802)

Pin No.	Signal Name	Destination	ON	OFF	Function
6	VL	CPU PCB CN1-6	 5V 0V AA_P214B0		DC+5V power supply

(CN803)

Pin No.	Signal Name	Destination	Status	Function
1	PGND	CPU PCB CN15-1	0V	Ground
2	VP	VP switch CNVPS-1	 24V 0V AA_P231B0	DC+24V power supply
3	PGND	CPU PCB CN15-3	0V	Ground
4	VP	VP switch CNVPS-3	 24V 0V AA_P231B0	DC+24V power supply

LED array PCB (CN901)

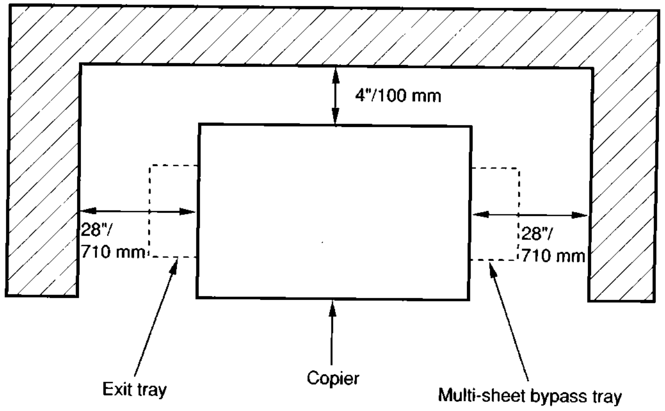
Pin No.	Signal Name	Destination	Status	Function
A	DATA1	CPU PCB CN4-10		LED array data signal
B	–	–	–	–
C	CK	CPU PCB CN4-12		LED array transmission clock signal
D	LATCH	CPU PCB CN4-14		LED array data latch signal
E	GND	CPU PCB CN4-16	0V	Ground
F	GNDT	CPU PCB CN4-18	0V	Ground
G	GNDT	CPU PCB CN4-20	0V	Ground
H	VL	CPU PCB CN4-22		DC+5V power supply
I	VL	CPU PCB CN4-24		DC+5V power supply

Section VII
Unpacking/Installation

7.1 Installation requirements

The copier is a precision designed machine and somewhat depends on the surrounding conditions for optimum operation. Attention to the following remarks will result in more reliability with quality performance.

1. The FP-1680/2080 should not be installed into areas with the following conditions:
   - (1) Extremely high or low temperature and humidity. (Ambient conditions.....Temperature:10°C to 30°C, Relative humidity: 30% to 80%)
   - (2) Area where temperature and humidity can change rapidly.
   - (3) Direct exposure to sunlight.
   - (4) In areas of high dust concentration.
   - (5) In areas of poor ventilation.
   - (6) In areas with chemical fume concentration.
   - (7) In areas with extreme vibration.
   - (8) Directly in air conditioning flow.
2. The FP-1680/2080 weights approx. 61 kg (without optional accessories). Use the proper stand for installation.
3. A properly wired, dedicated, 6.5A 220/240V AC outlet ie required. (do not use an extension cord.)
4. The figure below illustrates the space requirements needed for installation.
5. Make sure machine is properly leveled from left to right and from front to rear (use small carpenter level).



AB_P050U0

Figure 7-1-1

7.2 Unpacking

Check the condition and contents of the box for any shipping damage and completeness before installation. (Visual check)

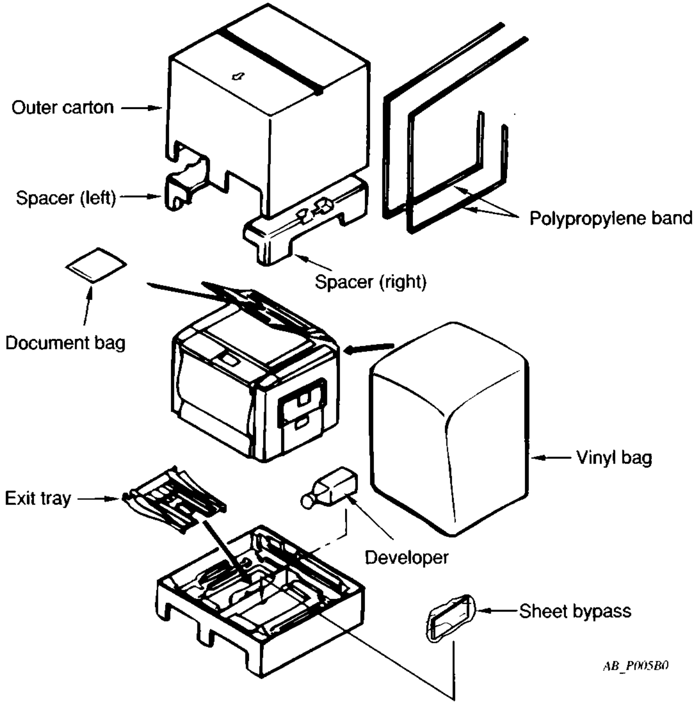

Outer carton
Spacer (left)
Polypropylene band
Spacer (right)
Document bag
Vinyl bag
Exit tray
Developer
Sheet bypass
AB_P005B0

Figure 7-2-1

1. Remove the polypropylene bands.
2. Remove the outer carton.
3. Remove the spacers (right and left).
4. Open the vinyl bag.
5. Take out the document bag.
6. Lift the copier and place it on its copier cabinet.
7. Take out the exit tray.
8. Take out the developer bottle.
   Note: The drum is already installed in the drum unit.

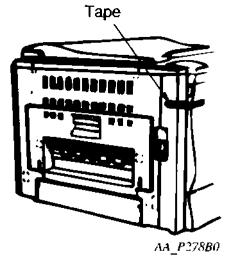
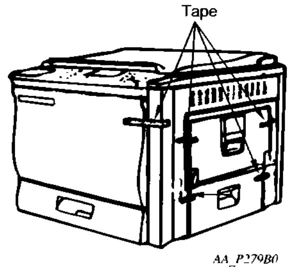
- Check the contents of the box.

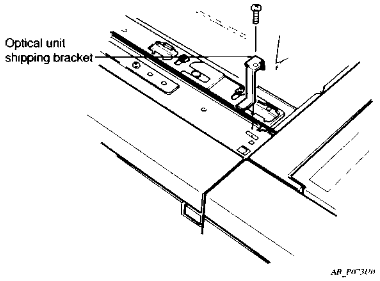
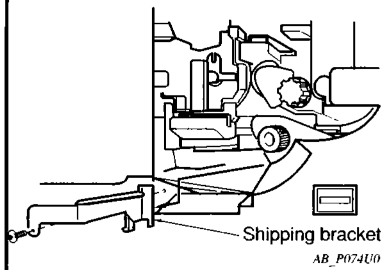
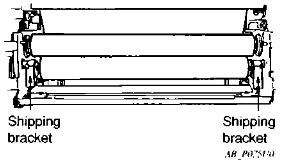
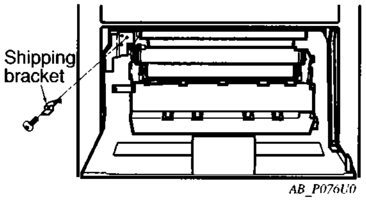
	Contents	Check
1	Copier (X1)	
2	Exit tray (X1)	
3	Document bag	
4	Developer	
5	Sheet bypass (for FP-1680)	

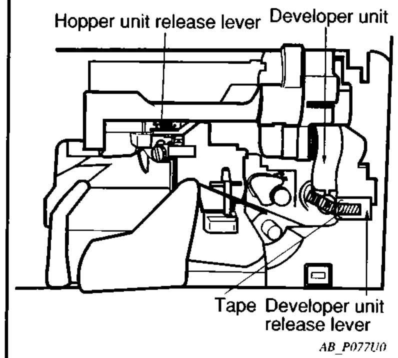
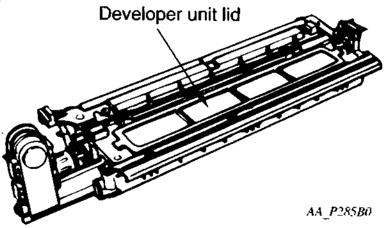
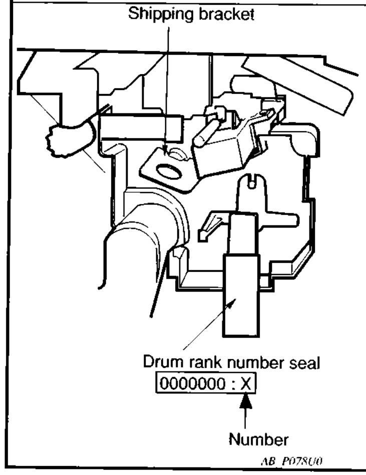
7.3 Installation procedure

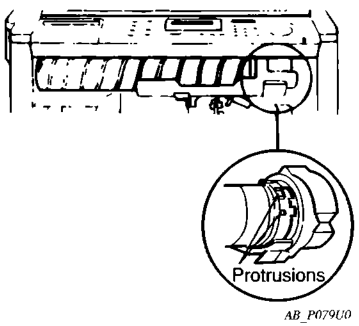
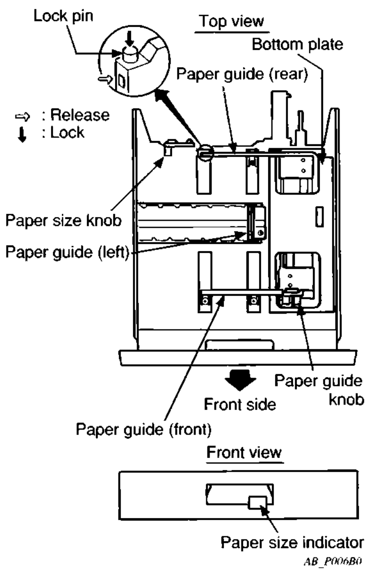
1. Installation

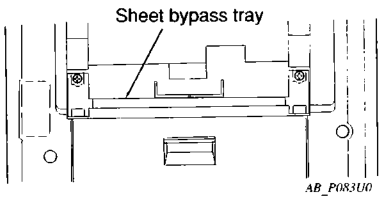
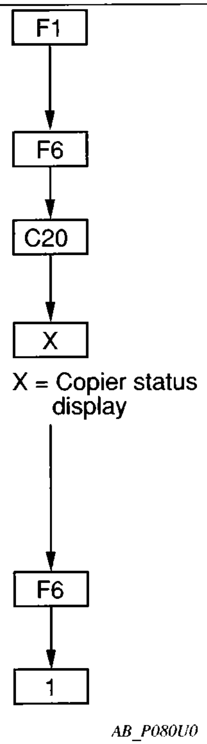
Remove the following shipping materials before installation.
Note: Save the shipping materials for future use (transport of copier).
Caution: Make sure the copier is unplugged before the installation.

REFERENCES	PROCEDURE	CHECK	
 Tape AA_P278B0  Tape AA_P279B0	- Remove the external packing/protection materials. - Remove the shipping tape from the copier.		

REFERENCES	PROCEDURE	CHECK
 Optical unit shipping bracket	• Remove the glass holder (left) (3 screws). • Remove the optical unit shipping bracket (1 screw). • Re-install the glass holder (left).	
 Shipping bracket AB_P074U0	• Open the front door. • Remove the transport shipping bracket (1 screw). • Re-install the transport shipping bracket screw (screw just removed).	
 Shipping bracket Shipping bracket  Shipping bracket AB_P076U0	• Open the paper exit door. **Note:** Paper exit door will not open if front door is closed. • Remove the fuser unit shipping brackets (2 pieces). **Note:** To remove shipping brackets, press down from the top and take them out. • Remove the fuser cleaning web shipping bracket. • Close the paper exit door.	

REFERENCES	PROCEDURE	CHECK
 Hopper unit release lever Developer unit Tape Developer unit release lever AB_P077U0	• Release the hopper unit release lever, the hopper unit moves to the left. • Remove the shipping tape from developer unit release lever. • Turn the developer unit release lever clockwise. • Remove the developer unit.	
 Developer unit lid AA_P285B0	• Remove the developer unit lid. • Take a fresh bottle of developer and shake it 10 to 15 times. • Pour the developer into the unit evenly. **Note:** Pour in the entire bottle of developer. • Re-install the developer unit lid. • Re-install the developer unit. • Turn the developer unit release lever counterclockwise. **Note:** If developer unit spacer ring does not contact the drum edge, turn the mixing paddle knob to the left.	
 Shipping bracket Drum rank number seal 0000000 : X Number AB_P078U0	• Remove the drum cleaning blade shipping bracket. **Note:** Keep it on the inner cover (right) hook for future use.	

REFERENCES	PROCEDURE	CHECK
 Protrusions AB_P079U0	• Take a fresh bottle of toner and shake it 10 to 15 times. • Remove the toner bottle seal. • Open the toner hopper. • Match the "U" shaped protrusion on the bottle with the opening on the bottle receiver unit in the toner hopper. • Insert the toner bottle. **Note:** Do not turn the toner bottle. • Close the toner hopper. • Move the hopper unit release lever to the right until it locks. • Install the waste toner bottle. • Close the front door.	
 Lock pin Top view Bottom plate Paper guide (rear) ⇨ : Release ↓ : Lock Paper size knob Paper guide (left) Paper guide knob Front side Paper guide (front) Front view Paper size indicator AB_P006B0	• Pull the paper tray out fully, raise the paper tray and pull towards you to remove it.. • Loosen the paper size knob screw (1 screw). • Position the paper size knob (left rear corner) to the paper size required and tighten the screw. • Remove the paper guide (left) screw (1 screw). • Position the paper guide (left) to the paper size required and tighten the screw. • Release the paper guide (rear) lock pin. • Remove the paper guide (rear) screw (1 screw). • Remove the paper guide (front) screws (2 screws). • Hold the paper guide knob and move the paper guides (front/rear) to the paper size required. • Tighten screws. • Lock the paper guide (rear) lock pin. • Rotate the paper size indicator to the paper size required.	

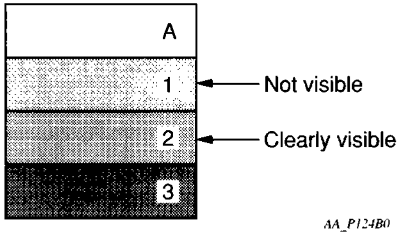
REFERENCES	PROCEDURE	CHECK
 Sheet bypass tray AB_P083U0	(for FP-1680) • Install the sheet bypass tray provided (2 screws provided). **Note:** screw are taped to the bottom of tray. (Side to Side adjustment) • Loosen the sheet bypass tray mounting screws (2 screws) and move the entire fray to the front or rear accordingly.	
 F1 F6 C20 X X = Copier status display F6 1 AB_P080U0	• Press "PAPER TRAY/PAPER SIZE", "3" and "RECALL" keys simultaneously to enter the F mode. • Press "6" key to enter the F6 mode. • Press "Print" key then "2", "0" keys to enter the F6 mode code 20. • Press "RECALL" key. • Enter the new content if necessary. Press "Print" key. **Note:** Refer to the drum rank number label on the drum stopper. • Press "CLEAR/STOP" key twice to escape from F6-20. • Write the contents of F6-20, 21 and 26 on the memory sheet. • Press "PAPER TRAY/PAPER SIZE", "3" and "CLEAR/STOP" keys simultaneously to escape from the F mode.	

2. **Installation setting**
   Perform these settings before making any copies or adjustments.
3. **Image Density Standard adjustment**

Caution: After the developer is replaced, the automatic gain adjustment for the Toner Density Sensor and the Image Density Standard adjustment must be performed.

Note: Prior to the Image Density Standard adjustment, toner addition must be performed. Press the "PAPER TRAY/PAPER SIZE" and MULTI COPY key "0" twice. Then F8-09 must be done, once.

1) Enter the F6 mode.
2) Set F6-11, 17, 19, and 40 to 0.
3) Change from F6 to F5 mode.
4) Set F5-25 to 0, then press "Print" key.
5) Turn the power off for approx. 1 sec. then turn the power on.
6) Enter the F2 mode and set the exposure to the center position in the document mode.
7) Make a copy of test chart #54 with gray scale (P/N FQ-SJ101).
   a) Gray scale 1, should not be visible.
   b) Gray scale 2, should be clearly visible.
   c) F6-39 adjustment:



If the density is light, (–) direction = density darker.
If the density is dark, (+) direction = density lighter.

8) Repeat steps 6 and 7, until the proper density is attained.
9) Enter the F5 mode and set F5-25 to 1, then press "Print" key. Turn the power off (1 sec.) and then on.
10) Enter F2 and make a copy of the test chart with gray scale.
11) If the gray scale and solids are acceptable, record the content of F6-39.

Note: After doing step 9, if the variance in copy quality is very noticable, or further adjustment is required for customer acceptance, use the following:
F6-11 (up to +/–5).

4. **Check**

1) Check exposure, and press "Original Size" key and "Copy Size" keys to confirm a change of copy ratio. Press the "Recall" key, then check the copy ratio display, and "Clear/Stop" key operation. Check for proper display indications.
2) Check copy paper size, and copies selected, for proper display indications.
3) Process 10 copies of Panasonic Test Chart #54, each size available for:
   a. Registration.
   b. 4.5 Resolution.
   c. Gray Scale.
   d. Acceptable Solid Fill.
   e. Acceptable Background.
   f. Copy Uniformity.
   g. Fusing.
   h. Varied "Exposure".
   i. "Clear/Stop" key operation.
4) Press "Up" and "Down" keys to confirm a change of ratio.
5) Make 5 copies at each Reduction and Enlargement ratio, checking each copy set for:
   a. Density.
   b. Background.
   c. Copy size.
6) Select reduction or enlargement mode, and 99 (FP-1680)/999 (FP-2080) copies desired, after 60 seconds both should reset to normal.
7) Install paper in the multi sheet bypass, select 5 copies and press the "Print" key. After one sheet has fed, hold the paper in the multi-sheet bypass tray so it cannot feed. The copier should indicate a "Jam" condition.
   Remove the jammed sheet, and open the front cover, then close, and confirm the "Jam" indicator has reset. Next, press the "Print" key. As the third sheet feeds, hold the next sheet so it cannot feed. The copier should indicator a "Jam" condition. Open the front cover and remove the jammed sheet, close the front cover, and confirm that the "Jam" indicator has reset. When the "Jam Position" indicator is reset the originally desired amount can be completed.
8) For color copies select the color unit, then follow the same procedure used in step 3.

5. **Installation of key counter**

When installation of the key counter option is requested, use the following procedure.

a) Open the front cover.
b) Remove the right cover (4 screws).
c) Remove the pre-stamped cover for the key counter, and finish the rough edges.

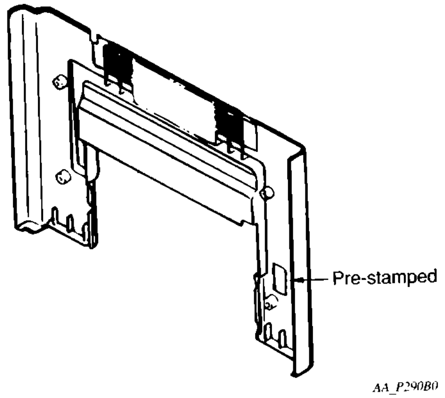


Figure 7-10-1

d) Connect the key counter socket connector, with CNKC for the key counter. Install the key counter socket with flat-head screws.
e) Re-install the right cover.
f) Close the front cover.
g) Perform the "F5" machine function and operations program "42 -1" to let the copier know a key counter is installed.
h) Check the operation of the key counter.
Note: When the key counter is not inserted "U0" will appear in the "Digit" display on the control panel.

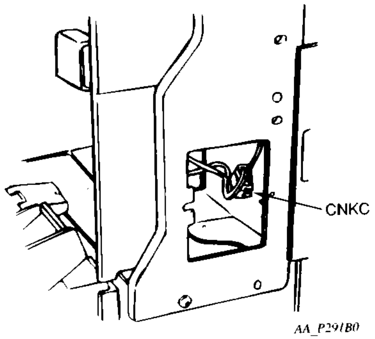
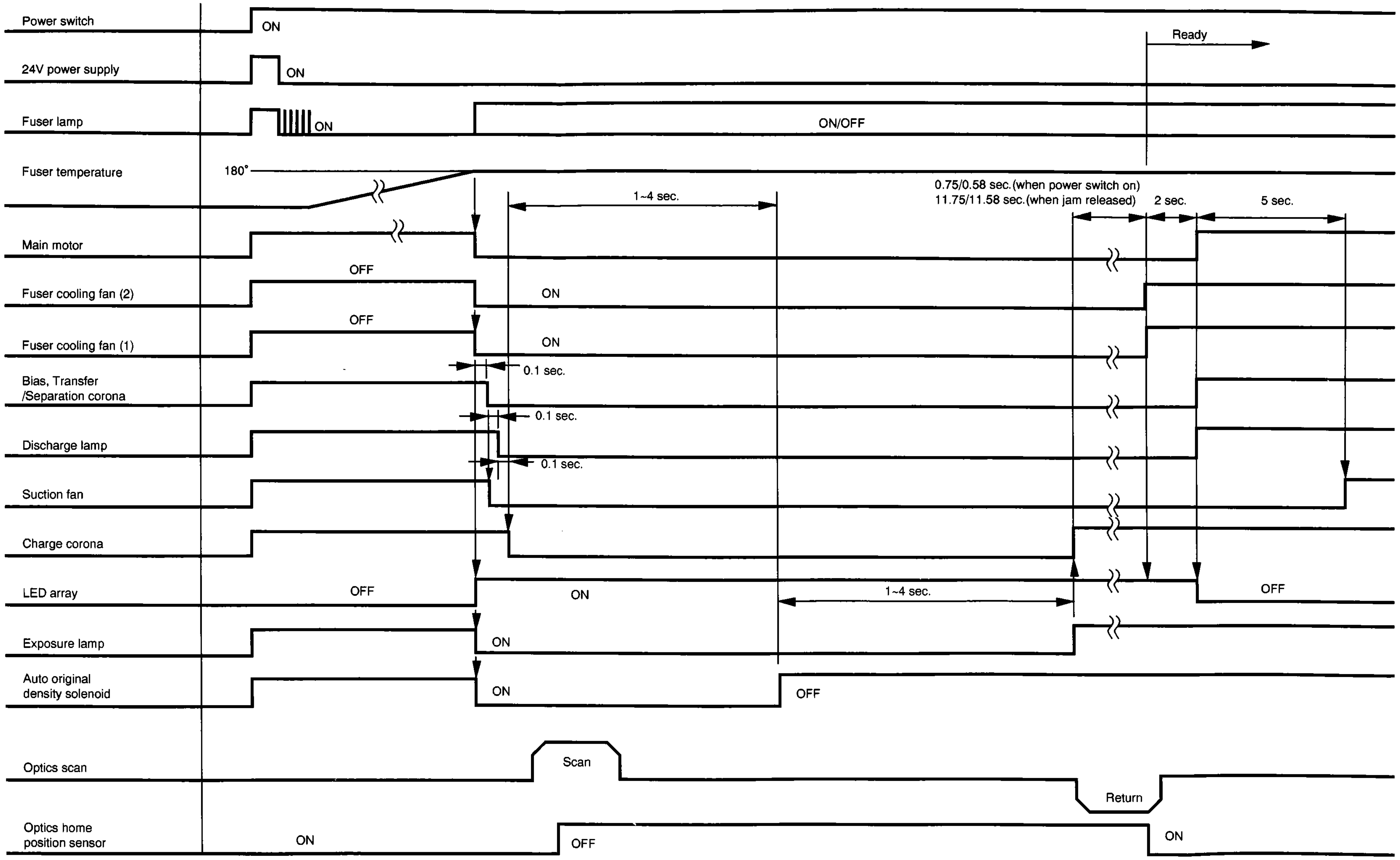


Figure 7-10-2

AB-TO58U0

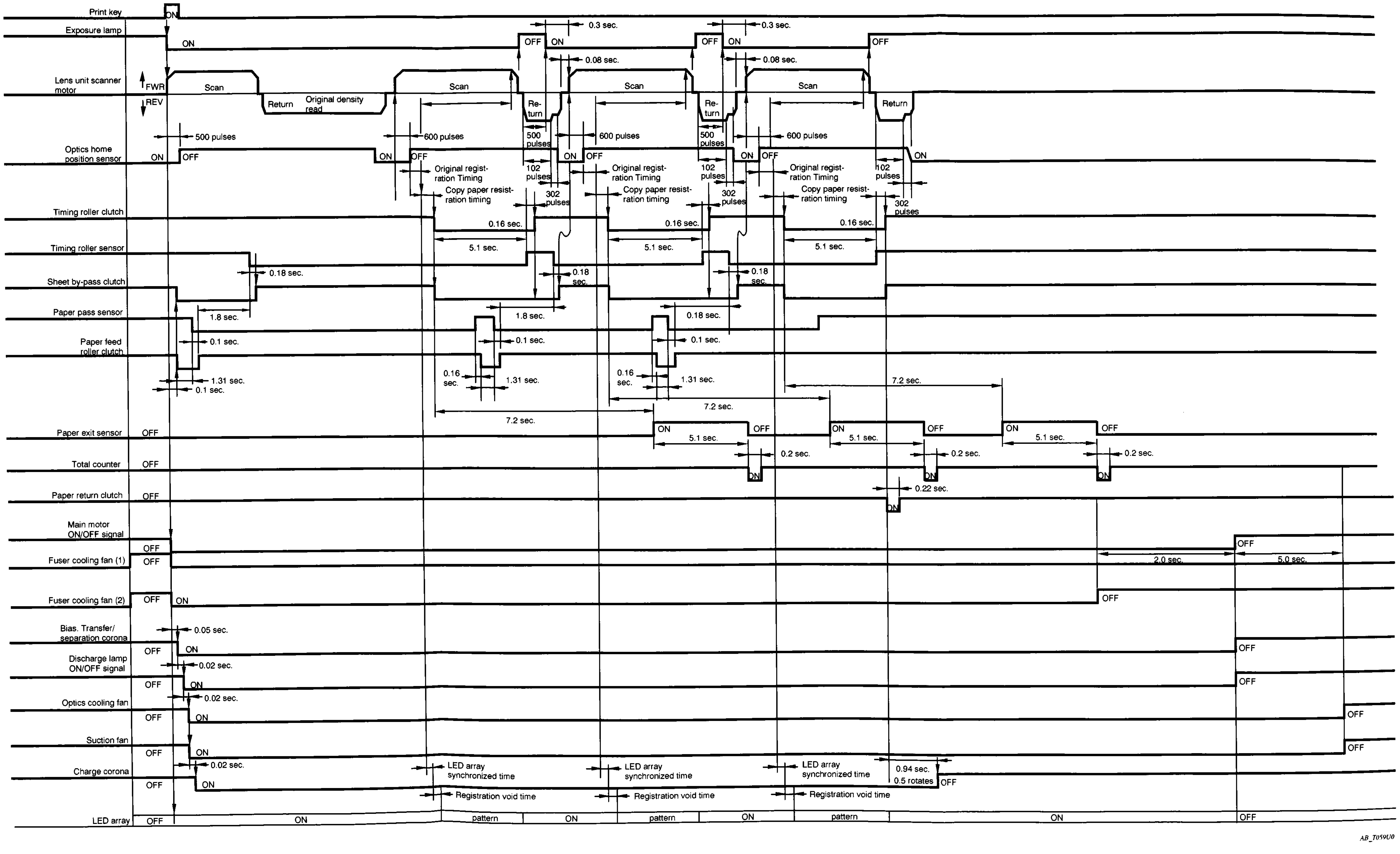
5.5 Timing chart

1. Power switch ON

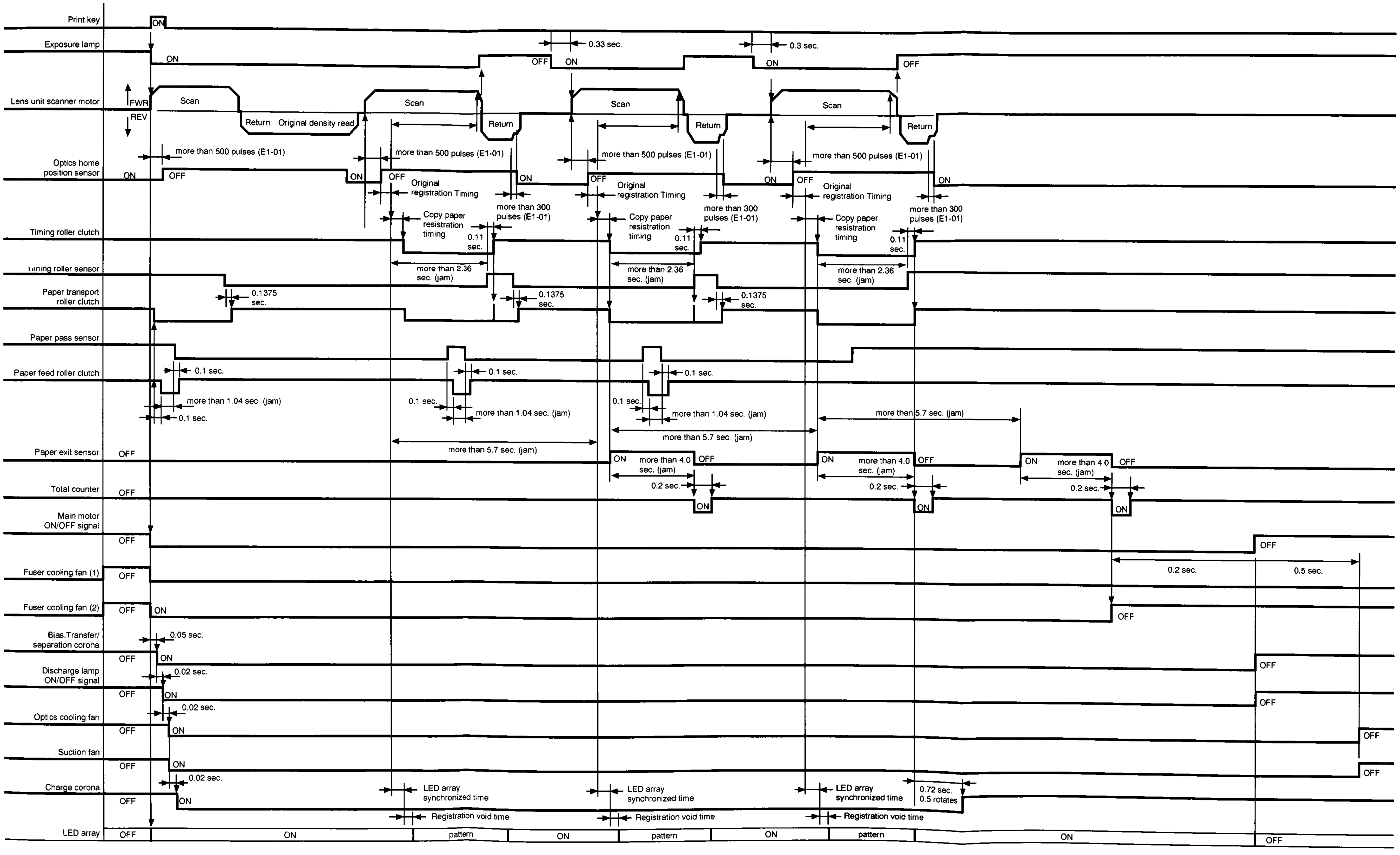

Power switch
ON
Ready
24V power supply
ON
Fuser lamp
ON
ON/OFF
Fuser temperature
180°
1~4 sec.
0.75/0.58 sec.(when power switch on)
11.75/11.58 sec.(when jam released)
2 sec.
5 sec.
Main motor
OFF
Fuser cooling fan (2)
ON
OFF
Fuser cooling fan (1)
ON
0.1 sec.
Bias, Transfer /Separation corona
0.1 sec.
Discharge lamp
0.1 sec.
Suction fan
Charge corona
LED array
OFF
ON
1~4 sec.
OFF
Exposure lamp
ON
Auto original density solenoid
ON
OFF
Optics scan
Scan
Return
Optics home position sensor
ON
OFF
ON
AB-TO58U0

NOTE: For example 0.75/0.58 sec. =FP-1680/FP-2080

2. Copy operation (1:1, A4 size) Three continuous copies (for FP-1680)


Print key
Exposure lamp
Lens unit scanner motor
Optics home position sensor
Timing roller clutch
Timing roller sensor
Sheet by-pass clutch
Paper pass sensor
Paper feed roller clutch
Paper exit sensor
Total counter
Paper return clutch
Main motor ON/OFF signal
Fuser cooling fan (1)
Fuser cooling fan (2)
Bias. Transfer/ separation corona
Discharge lamp ON/OFF signal
Optics cooling fan
Suction fan
Charge corona
LED array
ON
OFF
FWR
REV
Scan
Return
Original density read
Re- turn
500 pulses
600 pulses
102 pulses
302 pulses
Original regist- ration Timing
Copy paper resist- ration timing
0.3 sec.
0.08 sec.
0.16 sec.
5.1 sec.
0.18 sec.
1.8 sec.
0.1 sec.
1.31 sec.
7.2 sec.
0.2 sec.
0.22 sec.
2.0 sec.
5.0 sec.
0.05 sec.
0.02 sec.
LED array synchronized time
Registration void time
0.94 sec.
0.5 rotates
pattern
AB_T059U0

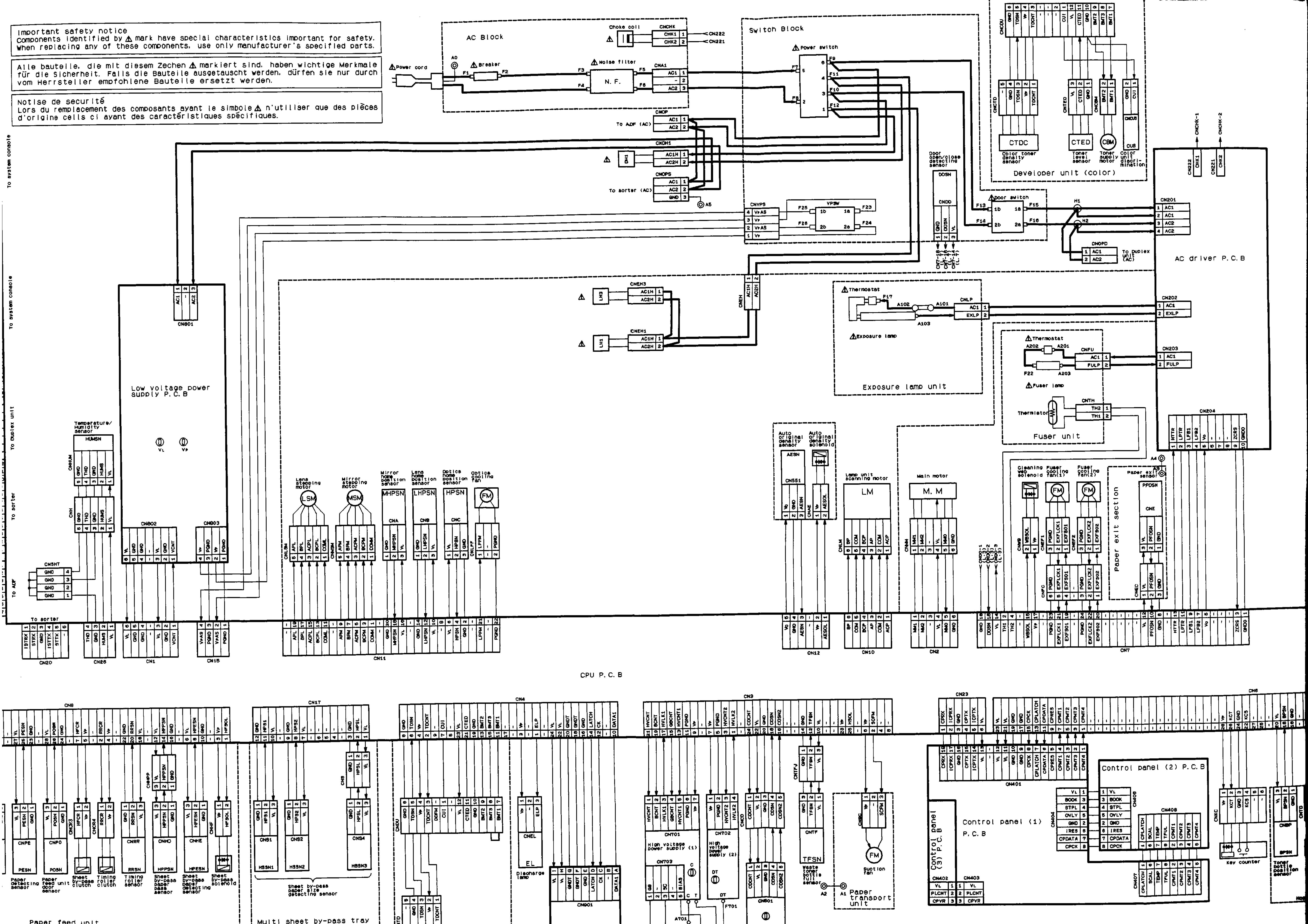
2. Copy operation (1:1, A4 size) Three continuous copies (for FP-2080)


Print key
Exposure lamp
Lens unit scanner motor
Optics home position sensor
Timing roller clutch
Timing roller sensor
Paper transport roller clutch
Paper pass sensor
Paper feed roller clutch
Paper exit sensor
Total counter
Main motor ON/OFF signal
Fuser cooling fan (1)
Fuser cooling fan (2)
Bias.Transfer/ separation corona
Discharge lamp ON/OFF signal
Optics cooling fan
Suction fan
Charge corona
LED array
ON
OFF
FWR
REV
Scan
Return
Original density read
0.33 sec.
0.3 sec.
more than 500 pulses (E1-01)
Original registration Timing
Copy paper resistration timing
more than 300 pulses (E1-01)
0.11 sec.
more than 2.36 sec. (jam)
0.1375 sec.
0.1 sec.
more than 1.04 sec. (jam)
more than 5.7 sec. (jam)
more than 4.0 sec. (jam)
0.2 sec.
0.5 sec.
0.05 sec.
0.02 sec.
LED array synchronized time
Registration void time
0.72 sec.
0.5 rotates
pattern
AB_T060U0

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Alle bauteile, die mit diesem Zechen ⚠ markiert sind, haben wichtige Merkmale für die Sicherheit. Falls die Bauteile ausgetauscht werden, dürfen sie nur durch vom Herrsteller empfohlene Bauteile ersetzt werden.

Notise de securité
Lors du remplacement des composants ayant le simbole ⚠ n'utiliser que des pièces d'origine cells ci ayant des caractéristiques spécifiques.


AC Block
Power cord
Breaker
Noise filter
N. F.
Choke coil
Switch Block
Power switch
Door switch
To ADF (AC)
To sorter (AC)
To Duplex unit (AC)
VPSW
Developer unit (color)
CTDC
Color toner density sensor
CTED
Toner level sensor
CBM
Toner supply motor
CUS
Color unit discrimination
Door open/close detecting sensor
DOSN
AC driver P. C. B
CN201
CN202
CN203
CN204
Exposure lamp unit
Thermostat
Exposure lamp
Fuser unit
Fuser lamp
Thermistor
Low voltage power supply P. C. B
CN801
CN802
CN803
Temperature/ Humidity sensor
HUMSN
Lens stepping motor
LSM
Mirror stepping motor
MSM
Mirror home position sensor
MHPSN
Lens home position sensor
LHPSN
Optics home position sensor
HPSN
Optics cooling fan
FM
Auto original density sensor
AESN
Auto original density solenoid
Lamp unit scanning motor
LM
Main motor
M. M
Cleaning web solenoid
Fuser cooling fan(1)
Fuser cooling fan(2)
Paper exit section
Paper exit sensor
PFOSN
CPU P. C. B
CN1
CN2
CN3
CN4
CN6
CN7
CN8
CN10
CN11
CN12
CN15
CN17
CN20
CN23
CN26
To system console
To Duplex unit
To sorter
To ADF
Paper feed unit
Paper detecting sensor
PESN
Paper feed unit door sensor
POSN
Sheet by-pass clutch
Timing roller clutch
Timing roller sensor
RRSN
Sheet by-pass paper pass sensor
HPPSN
Sheet by-pass paper detecting sensor
HPESN
Sheet by-pass solenoid
Multi sheet by-pass tray
Sheet by-pass paper size detecting sensor
HSSN1
HSSN2
HSSN3
EL
Discharge lamp
CN901
High voltage power supply (1)
High voltage power supply (2)
CNT01
CNT02
CN703
TFSN
Waste toner bottle full sensor
Suction fan
Paper transport unit
Control panel (1) P. C. B
Control panel (2) P. C. B
Control panel (3) P. C. B
CN401
CN402
CN403
CN404
CN406
CN407
CN408
Key counter
BPSN
Toner bottle position sensor

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Notise de securité
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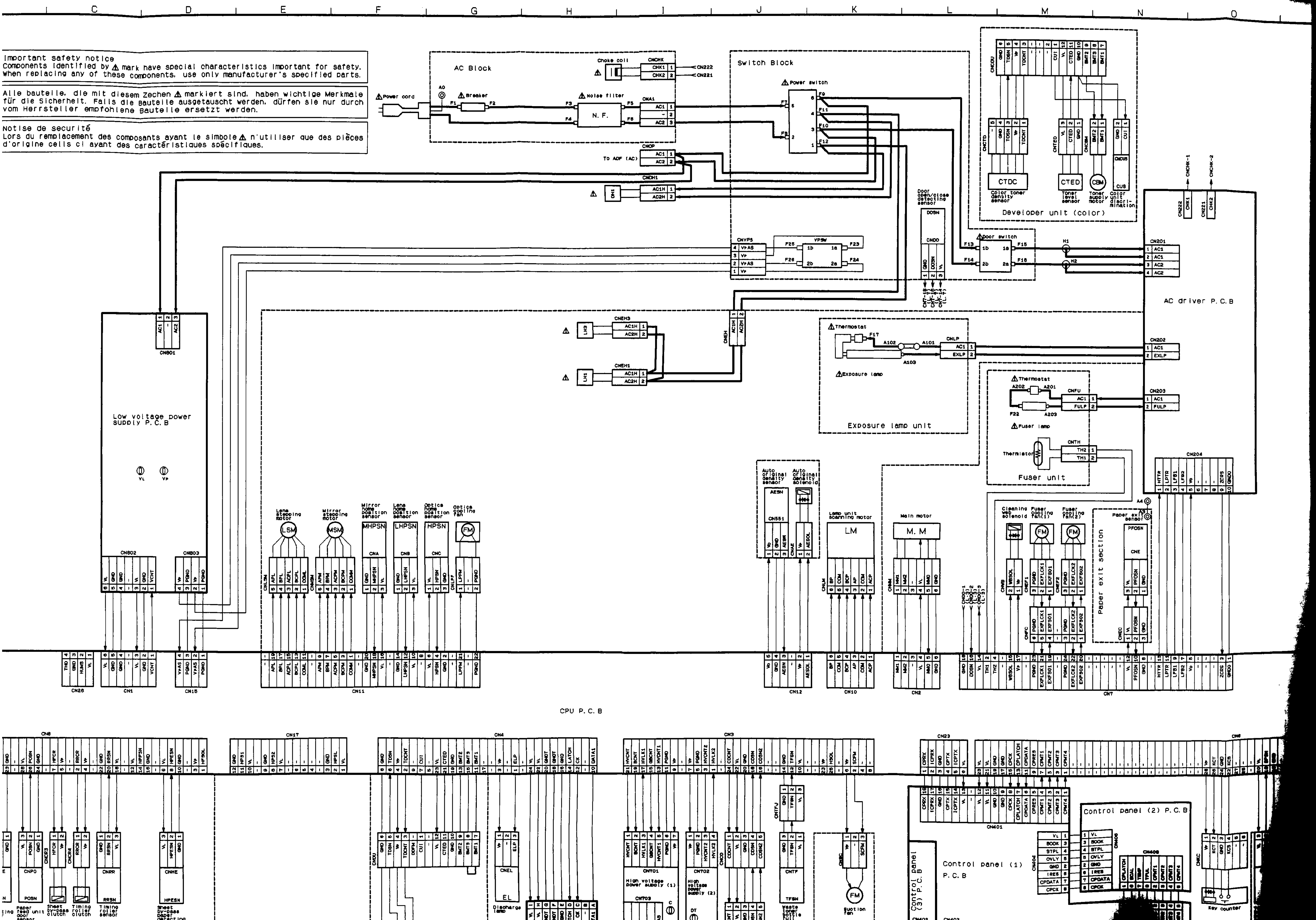
C
D
E
F
G
H
I
J
K
L
M
N
O
AC Block
⚠Power cord
A0
⚠Breaker
F1
F2
F3
F4
⚠Noise filter
N. F.
F5
F6
CNA1
AC1
AC2
Choke coil
CNCHK
CHK1
CHK2
CN222
CN221
To ADF (AC)
CNOP
CNCH1
DH1
AC1H
AC2H
Switch Block
⚠Power switch
F7
F8
F9
F10
F11
F12
CNVP5
VPAS
VP
VPSW
F23
F24
F25
F26
1b
1a
2b
2a
Door open/close detecting sensor
DOSN
CNDO
GND
VL
Developer unit (color)
CNCDU
CNCTD
CTDC
Color toner density sensor
TDCNT
TOSN
CNTED
CTED
Toner level sensor
CNCBM
CBM
Toner supply motor
BMT1
BMT2
BMT3
CNCUS
CUS
Color unit discrimination
CUI
⚠Door switch
F13
F14
F15
F16
H1
H2
AC driver P. C. B
CN201
CN202
CN203
CN204
CN221
CN222
CHK1
CHK2
CNCHK-1
CNCHK-2
EXLP
FULP
HTTR
LPTR
LFB1
LFB2
VO
ZCRS
GNDO
CNEH
CNEH3
CNEH1
LH3
LH1
⚠Thermostat
F17
A101
A102
A103
CNLP
⚠Exposure lamp
Exposure lamp unit
A201
A202
A203
F22
CNFU
⚠Fuser lamp
Thermistor
CNTH
TH1
TH2
Fuser unit
Low voltage power supply P. C. B
CN801
CN802
CN803
VCNT
VPAS
PGND
Lens stepping motor
LSM
Mirror stepping motor
MSM
Mirror home position sensor
MHPSN
Lens home position sensor
LHPSN
Optics home position sensor
HPSN
Optics cooling fan
FM
CNLSM
CNMSM
CNA
CNB
CNC
CNLFF
Auto original density sensor
AESN
CN551
Auto original density solenoid
CNAE
AESOL
Lamp unit scanning motor
LM
CNLM
Main motor
M. M
CNMM
Cleaning web solenoid
WBSOL
CNWB
Fuser cooling fan(1)
Fuser cooling fan(2)
CNFC
CNFF1
CNFF2
EXFS01
EXFS02
EXFLCK1
EXFLCK2
Paper exit section
Paper exit sensor
PFOSN
CNE
CNEC
A4
A3
CNDO-1
CNDO-2
CNDO-3
CN26
CN1
CN15
CN11
CN12
CN10
CN2
CN7
CPU P. C. B
CN8
CN17
CN4
CN3
CN23
CN6
Paper feed unit door sensor
POSN
CNPO
Sheet by-pass clutch
CNCR3
HPCR
Timing roller clutch
CNCR4
RRCR
Timing roller sensor
RRSN
CNRR
Sheet by-pass paper detecting
HPESN
CNHE
CNDU
Discharge lamp
EL
CNEL
ELP
High voltage power supply (1)
CNT01
CNT03
High voltage power supply (2)
CNT02
CNCD
Waste toner bottle full
TFSN
CNTF
CNTFJ
Suction fan
SCFM
CNSC
Control panel (3) P. C. B
CN402
CN403
Control panel (1) P. C. B
CN401
CN404
Control panel (2) P. C. B
CN406
CN408
CPRX
CPTX
CPCK
CPLATCH
CPDATA
CPRES
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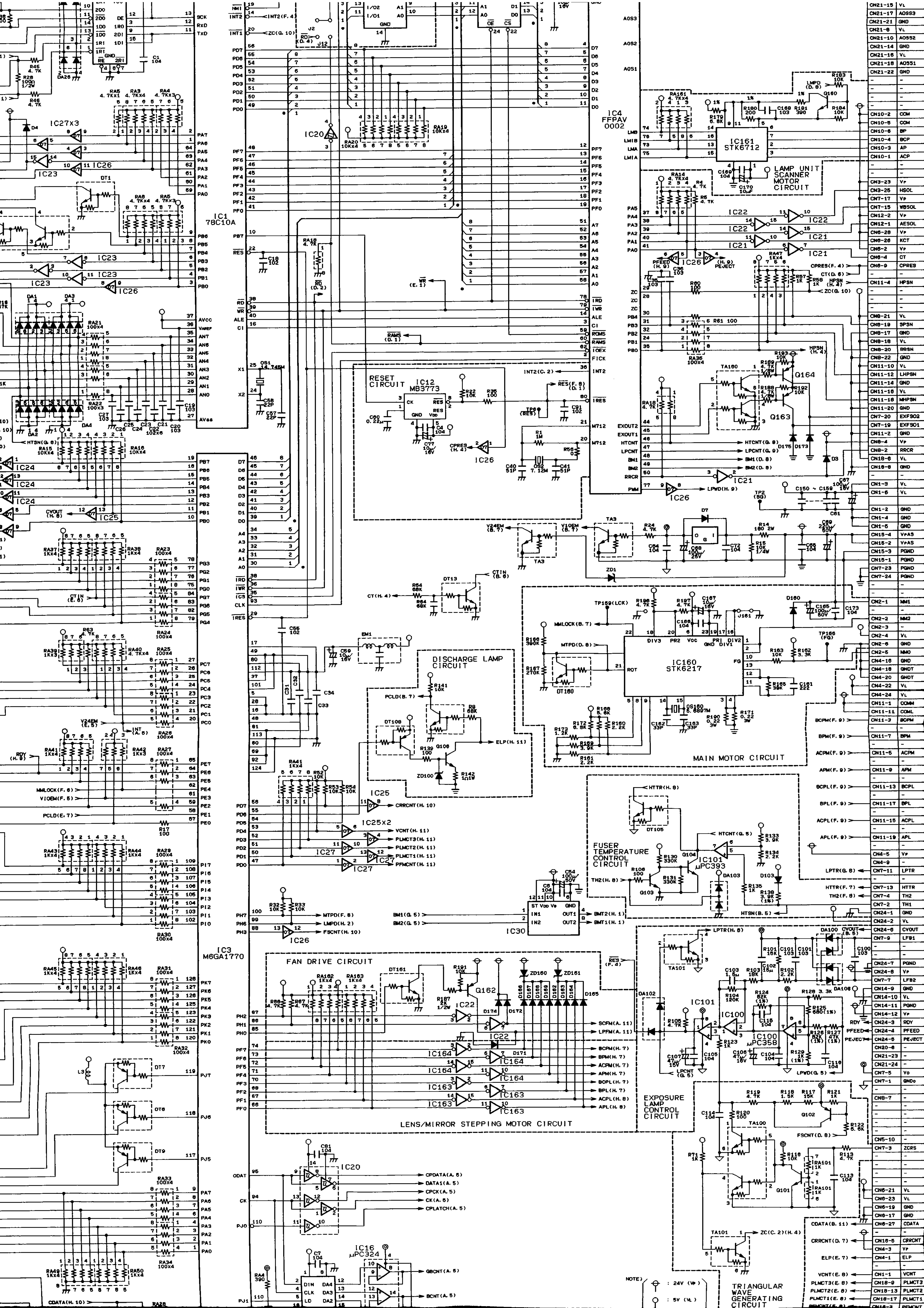
CPMT2
CPMT3
CPMT4
BOOK
STPL
OVLY
IRES
Key counter
CNKC
KCT
KCS


IC1
78C10A
IC3
M6GA1770
IC4
FFPAV
0002
RESET CIRCUIT
IC12
MB3773
IC161
STK6712
LAMP UNIT SCANNER MOTOR CIRCUIT
IC160
STK6217
MAIN MOTOR CIRCUIT
DISCHARGE LAMP CIRCUIT
FUSER TEMPERATURE CONTROL CIRCUIT
IC101
μPC393
IC30
FAN DRIVE CIRCUIT
LENS/MIRROR STEPPING MOTOR CIRCUIT
EXPOSURE LAMP CONTROL CIRCUIT
IC100
μPC358
IC20
IC16
μPC324
TRIANGULAR WAVE GENERATING CIRCUIT
NOTE)
: 24V (VP)
: 5V (VL)
IC27X3
IC23
IC24
IC25
IC25X2
IC26
IC27
IC21
IC22
IC163
IC164
Q160
Q162
Q163
Q164
Q101
Q102
Q103
Q104
Q106
TA100
TA101
TA160
TA3
DT1
DT7
DT8
DT9
DT13
DT105
DT108
DT160
DT161
EM1
CN2-1 MM1
CN2-2 MM2
CN7-23 PGND
CN7-24 PGND
CN24-1 GND
CN24-2 VL
CN24-6 CVOUT
CN7-9 LFB1
CN7-7 LFB2
CN24-3 RDY
CN24-4 PFEED
CN24-5 PEJECT
CN7-3 ZCRS
CN6-27 CDATA
CN16-5 CRRCNT
CN4-1 ELP
CN1-1 VCNT
CN18-9 PLMCT3
CN18-13 PLMCT2
CN18-17 PLMCT1
CN11-19 APL
CN11-15 ACPL
CN11-17 BPL
CN11-13 BCPL
CN11-9 APM
CN11-5 ACPM
CN11-7 BPM
CN11-3 BCPM
CN7-11 LPTR
CN7-13 HTTR
CN7-4 TH2
CN7-2 TH1
CN10-1 ACP
CN10-3 AP
CN10-4 BCP
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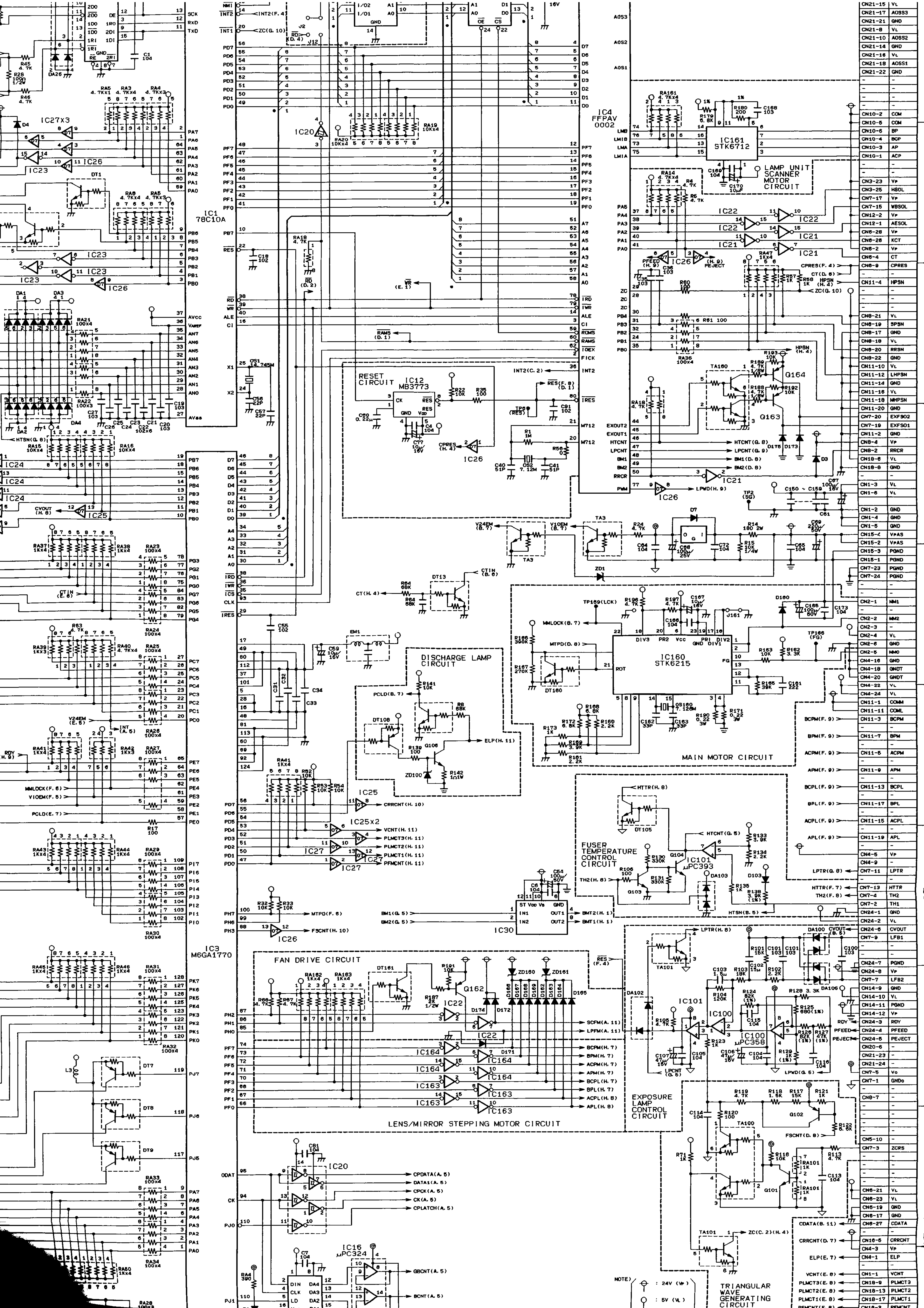
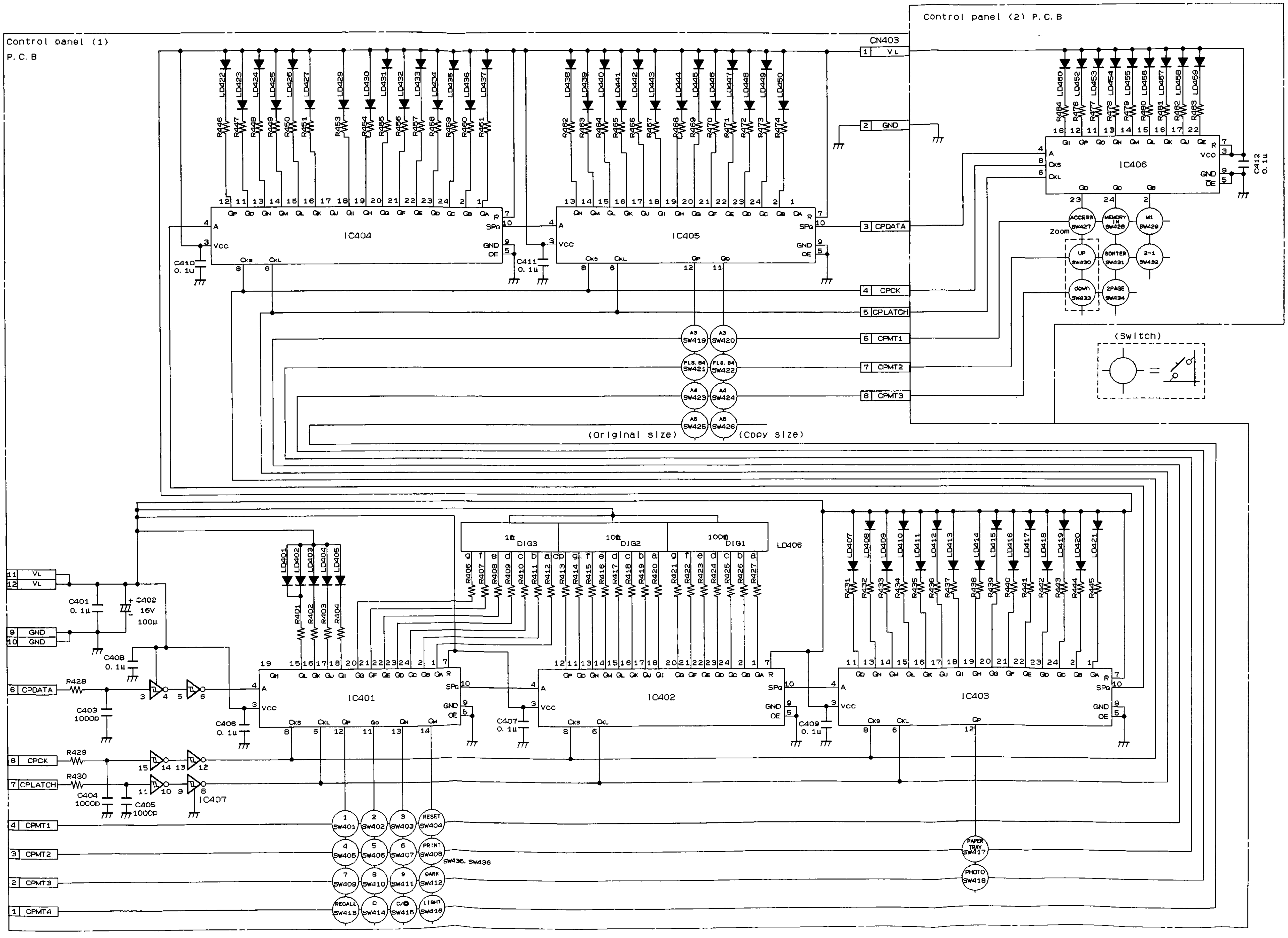
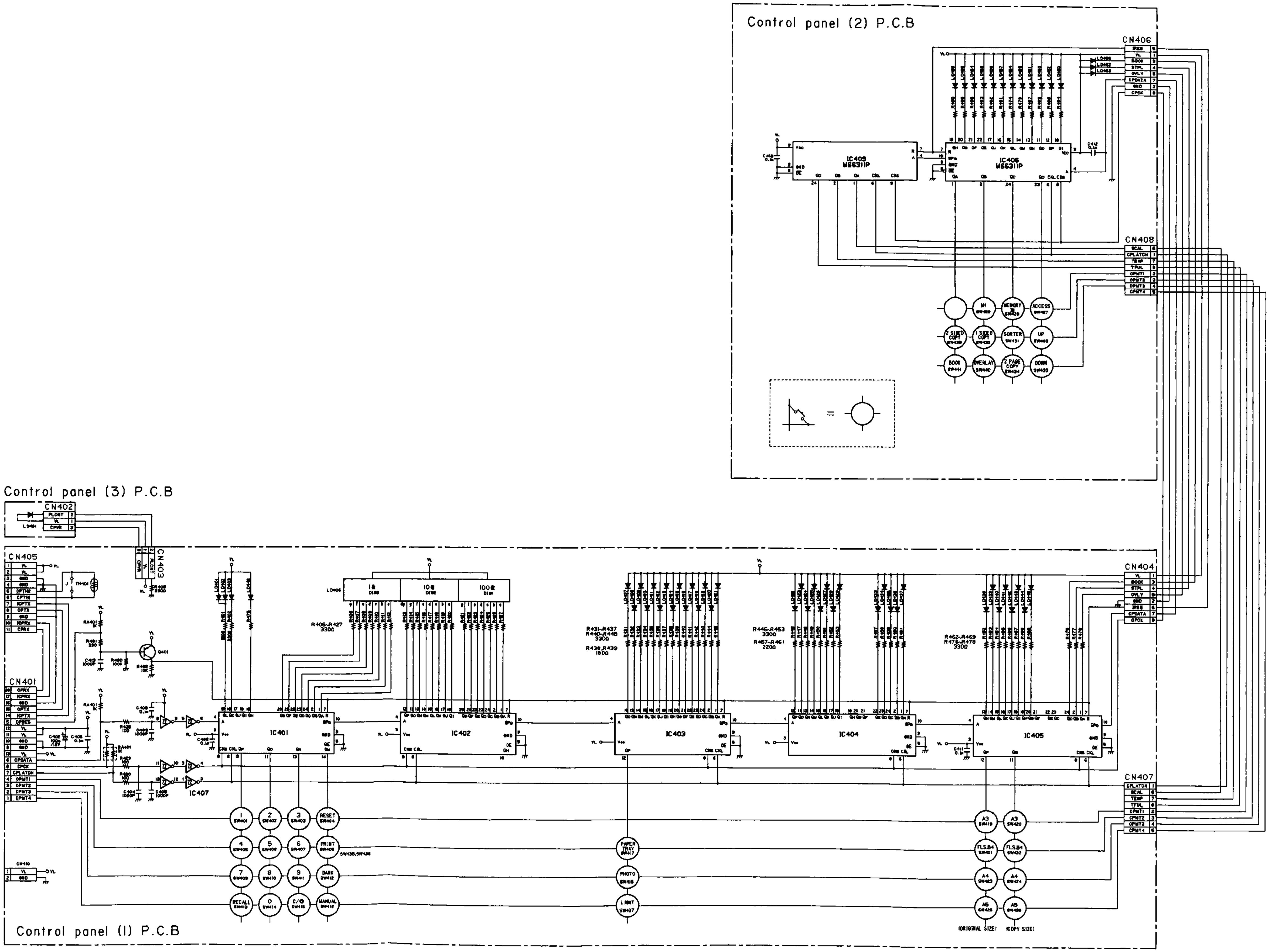
CN21-18 AOSS1
CN21-10 AOSS2
CN21-17 AOSS3


IC1 78C10A
IC3 M6GA1770
IC4 FFPAV 0002
RESET CIRCUIT
IC12 MB3773
IC161 STK6712
LAMP UNIT SCANNER MOTOR CIRCUIT
IC160 STK6215
MAIN MOTOR CIRCUIT
DISCHARGE LAMP CIRCUIT
FUSER TEMPERATURE CONTROL CIRCUIT
IC101 μPC393
IC30
FAN DRIVE CIRCUIT
LENS/MIRROR STEPPING MOTOR CIRCUIT
EXPOSURE LAMP CONTROL CIRCUIT
IC100 μPC358
IC20
IC16 μPC324
TRIANGULAR WAVE GENERATING CIRCUIT
NOTE) : 24V (VP)
: 5V (VL)

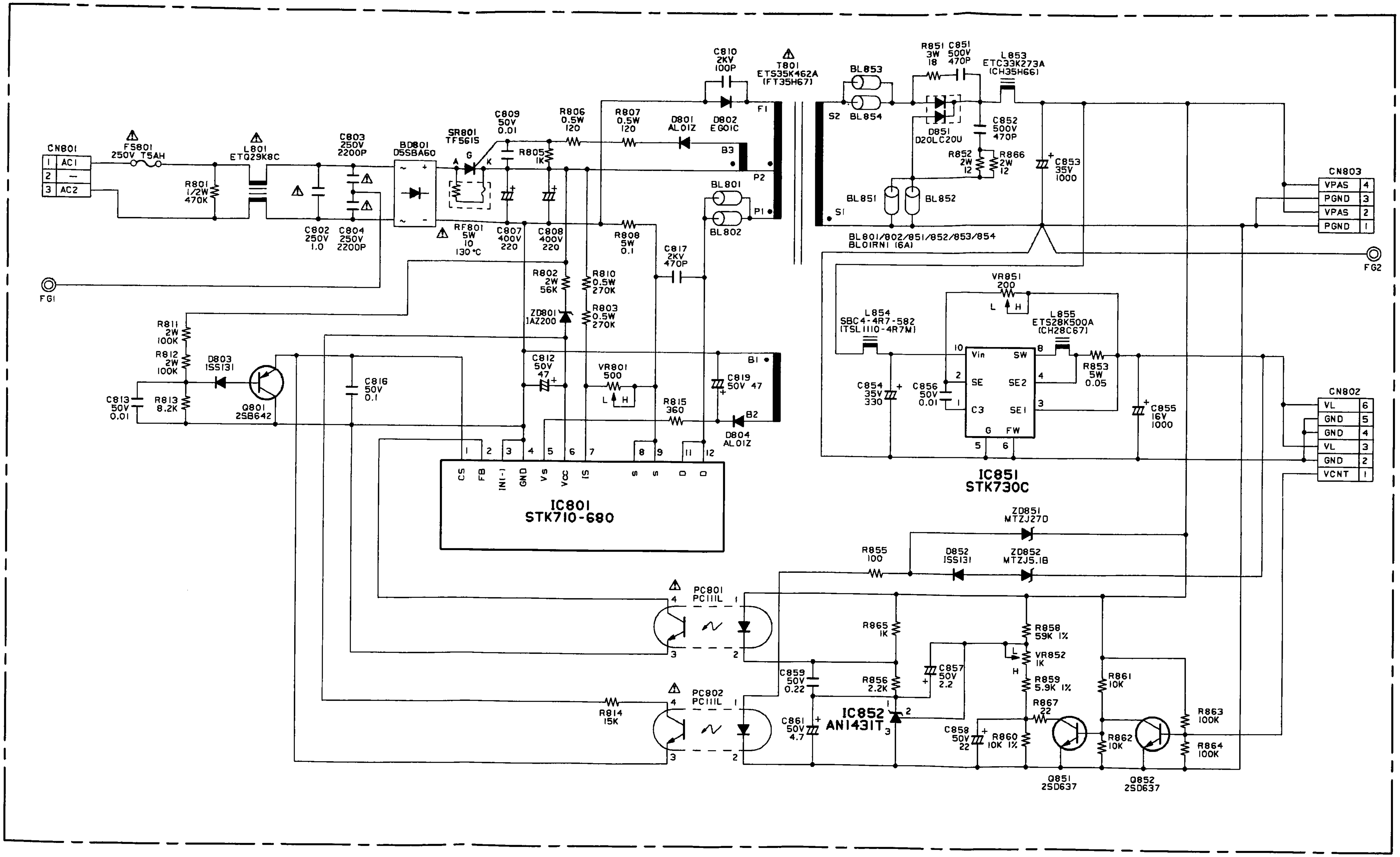
3. Control panel (1), (2) and (3) PCB (FP-1680)


Control panel (1) P. C. B
Control panel (2) P. C. B
CN403
1 VL
2 GND
3 CPDATA
4 CPCK
5 CPLATCH
6 CPMT1
7 CPMT2
8 CPMT3
IC401
IC402
IC403
IC404
IC405
IC406
IC407
LD406
DIG1
DIG2
DIG3
C401 0.1μ
C402 16V 100μ
C403 1000P
C404 1000P
C405 1000P
C406 0.1μ
C407 0.1μ
C408 0.1μ
C409 0.1μ
C410 0.1μ
C411 0.1μ
C412 0.1μ
R428
R429
R430
11 VL
12 VL
9 GND
10 GND
6 CPDATA
8 CPCK
7 CPLATCH
4 CPMT1
3 CPMT2
2 CPMT3
1 CPMT4
Vcc
GND
OE
SPQ
Cks
CkL
1 SW401
2 SW402
3 SW403
RESET SW404
4 SW405
5 SW406
6 SW407
PRINT SW408
SW436, SW436
7 SW409
8 SW410
9 SW411
DARK SW412
RECALL SW413
0 SW414
C/Ⓢ SW415
LIGHT SW416
PAPER TRAY SW417
PHOTO SW418
A3 SW419
A3 SW420
FLS. B4 SW421
FLS. B4 SW422
A4 SW423
A4 SW424
A5 SW425
A5 SW426
(Original size)
(Copy size)
ACCESS SW427
MEMORY IN SW428
M1 SW429
Zoom
UP SW430
SORTER SW431
2-1 SW432
down SW433
2PAGE SW434
(Switch)

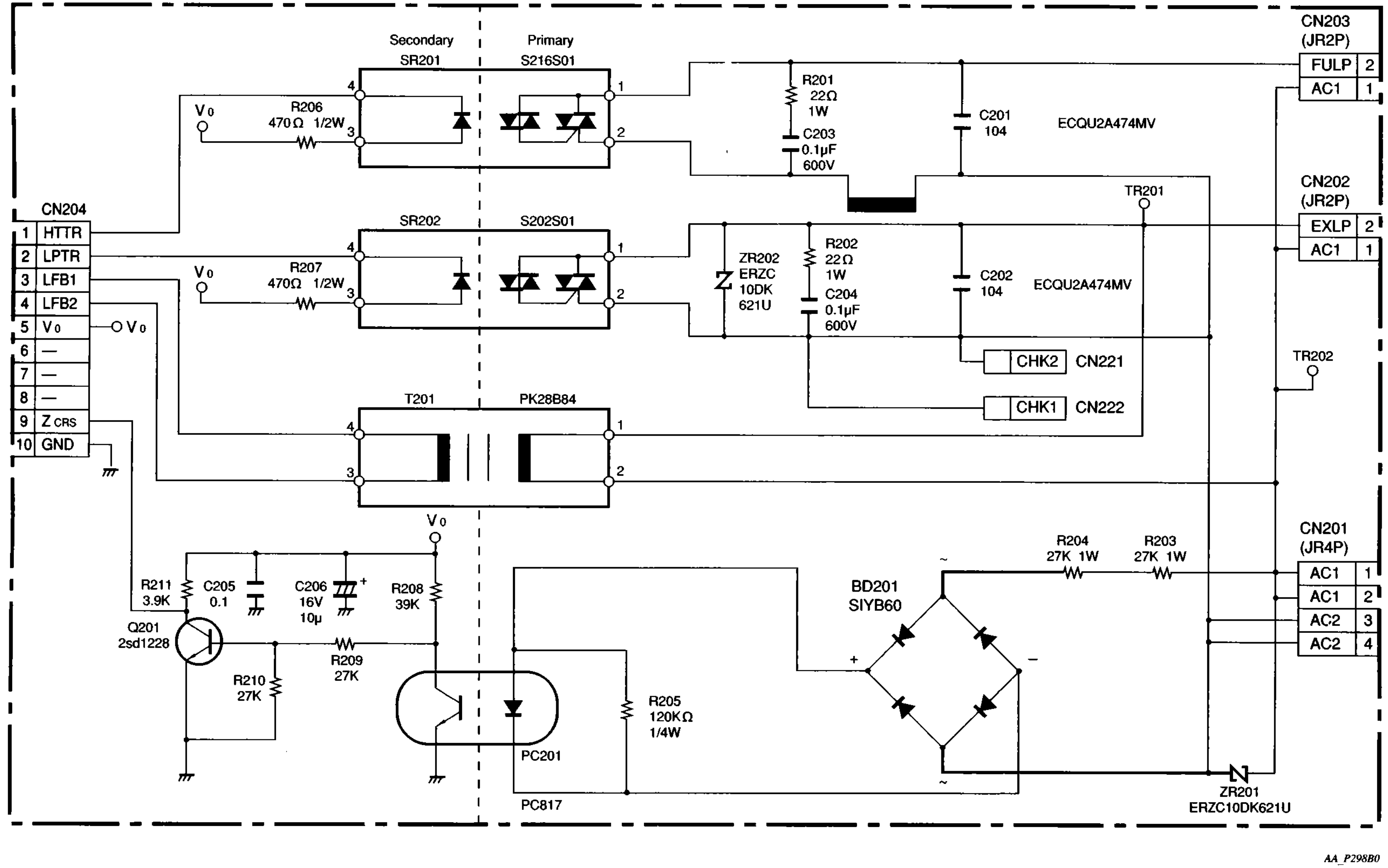
3. Control panel (1), (2) and (3) PCB (FP-2080)


Control panel (2) P.C.B
CN406
CN408
IC409
M66311P
IC406
M66311P
MEMORY
ACCESS
2 SIDED COPY
1 SIDED COPY
SORTER
UP
BOOK
OVERLAY
2 PAGE COPY
DOWN
Control panel (3) P.C.B
CN402
CN403
CN405
CN401
CN404
CN407
CN410
Q401
IC401
IC402
IC403
IC404
IC405
IC407
1Ø
10Ø
100Ø
R406-R427
3300
R431-R437
R440-R445
3300
R438,R439
1800
R446-R453
3300
R467-R461
2200
R462-R469
R475-R479
3300
RESET
PRINT
DARK
MANUAL
RECALL
C/⊗
PAPER TRAY
PHOTO
LIGHT
A3
FLS.B4
A4
A5
(ORIGINAL SIZE)
(COPY SIZE)
Control panel (1) P.C.B

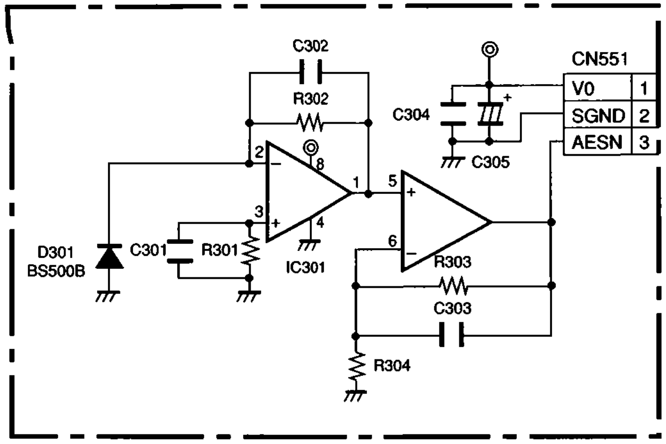
4. Low Voltage power supply PCB


CN801
1 AC1
2 —
3 AC2
F5801 250V T5AH
R801 1/2W 470K
L801 ETQ29K8C
C802 250V 1.0
C803 250V 2200P
C804 250V 2200P
BD801 D5SBA60
SR801 TF561S
A G K
RF801 5W 10 130°C
C809 50V 0.01
R805 1K
C807 400V 220
C808 400V 220
R806 0.5W 120
R807 0.5W 120
D801 AL01Z
D802 EG01C
C810 2KV 100P
T801 ETS35K462A (FT35H67)
F1
B3
P2
P1
BL801
BL802
R808 5W 0.1
C817 2KV 470P
R802 2W 56K
R810 0.5W 270K
ZD801 1AZ200
R803 0.5W 270K
C812 50V 47
VR801 500
L H
R815 360
B1
C819 50V 47
B2
D804 AL01Z
FG1
R811 2W 100K
R812 2W 100K
D803 1SS131
C813 50V 0.01
R813 8.2K
Q801 2SB642
C816 50V 0.1
1 CS
2 FB
3 IN(-)
4 GND
5 Vs
6 Vcc
7 IS
8 S
9 S
11 D
12 D
IC801
STK710-680
PC801 PC111L
PC802 PC111L
R814 15K
1 2 3 4
S2
BL853
BL854
R851 3W 18
C851 500V 470P
L853 ETC33K273A (CH35H66)
D851 D20LC20U
C852 500V 470P
R852 2W 12
R866 2W 12
C853 35V 1000
BL851
BL852
S1
BL801/802/851/852/853/854
BL01RN1 (6A)
CN803
VPAS 4
PGND 3
VPAS 2
PGND 1
FG2
VR851 200
L H
L854 SBC4-4R7-582 (TSL1110-4R7M)
L855 ETS28K500A (CH28C67)
10 Vin
SW 8
2 SE
SE2 4
1 C3
SE1 3
G 5
FW 6
R853 5W 0.05
C854 35V 330
C856 50V 0.01
C855 16V 1000
IC851
STK730C
CN802
VL 6
GND 5
GND 4
VL 3
GND 2
VCNT 1
ZD851 MTZJ27D
R855 100
D852 1SS131
ZD852 MTZJ5.1B
R865 1K
R858 59K 1%
VR852 1K
L H
R859 5.9K 1%
R861 10K
R863 100K
C859 50V 0.22
R856 2.2K
C857 50V 2.2
R867 22
C861 50V 4.7
IC852
AN1431T
1 2 3
C858 50V 22
R860 10K 1%
R862 10K
R864 100K
Q851 2SD637
Q852 2SD637

AC Driver PCB

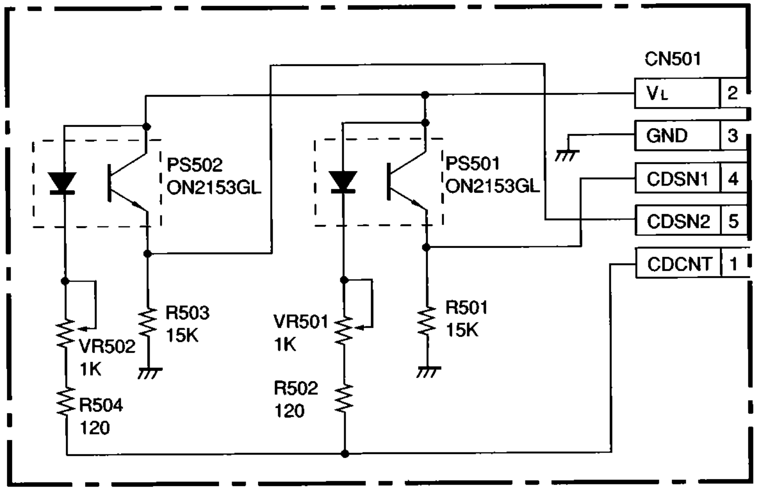

Secondary
Primary
SR201
S216S01
Vo
R206
470Ω 1/2W
R201
22Ω
1W
C203
0.1μF
600V
C201
104
ECQU2A474MV
CN203
(JR2P)
FULP 2
AC1 1
CN204
1 HTTR
2 LPTR
3 LFB1
4 LFB2
5 Vo
6 —
7 —
8 —
9 Z CRS
10 GND
SR202
S202S01
R207
470Ω 1/2W
ZR202
ERZC
10DK
621U
R202
22Ω
1W
C204
0.1μF
600V
C202
104
ECQU2A474MV
TR201
CN202
(JR2P)
EXLP 2
AC1 1
CHK2
CN221
CHK1
CN222
TR202
T201
PK28B84
R211
3.9K
C205
0.1
C206
16V
10μ
R208
39K
Q201
2sd1228
R209
27K
R210
27K
R205
120KΩ
1/4W
PC201
PC817
BD201
SIYB60
R204
27K 1W
R203
27K 1W
CN201
(JR4P)
AC1 1
AC1 2
AC2 3
AC2 4
ZR201
ERZC10DK621U
AA_P298B0

6. Auto original density sensor PCB


C302
R302
C304
C305
CN551
V0 1
SGND 2
AESN 3
D301
BS500B
C301
R301
IC301
R303
C303
R304
1
2
3
4
5
6
8

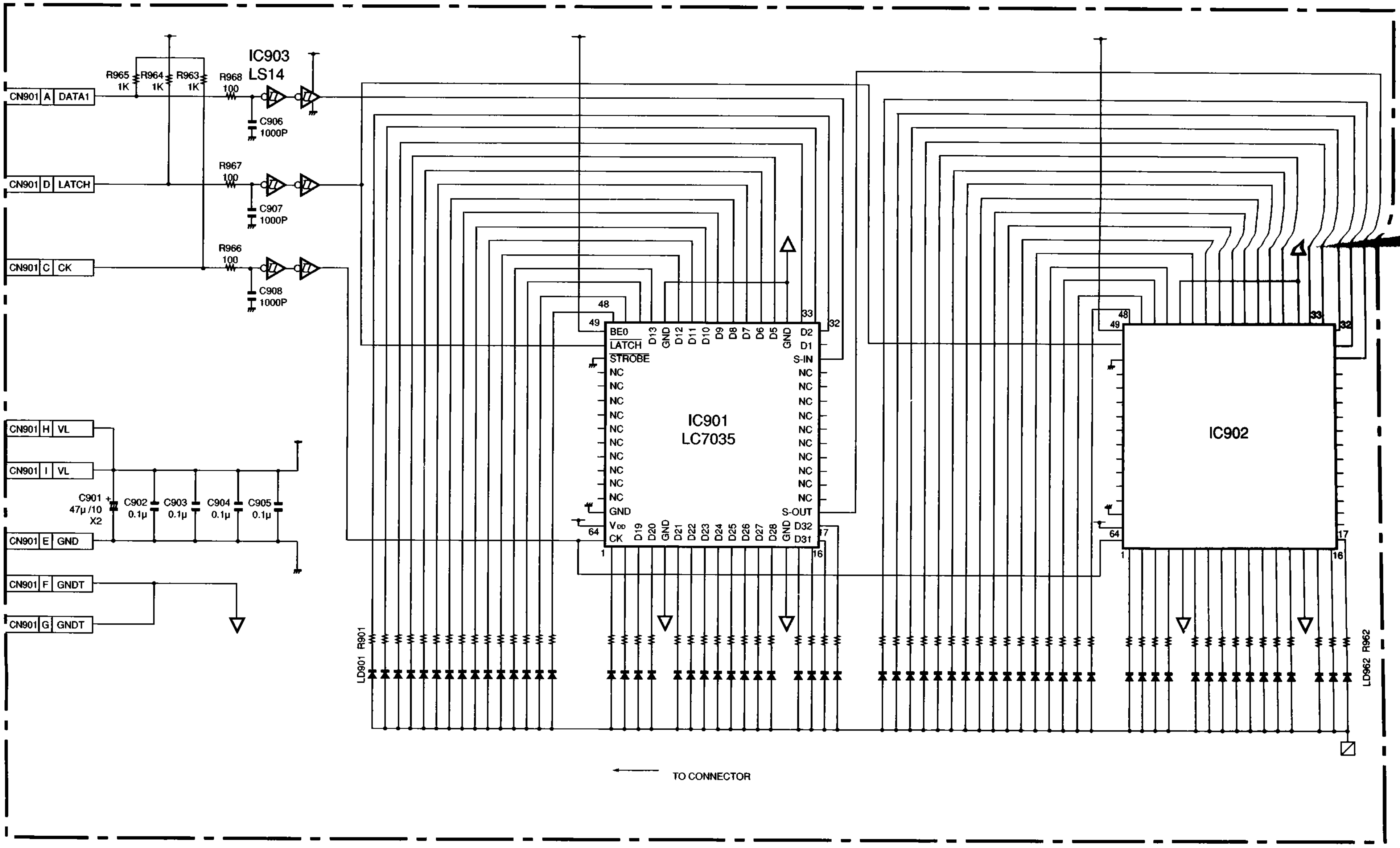
AA_P299B0

. Copy density sensor PCB


CN501
VL 2
GND 3
CDSN1 4
CDSN2 5
CDCNT 1
PS502
ON2153GL
PS501
ON2153GL
R503
15K
VR502
1K
R504
120
VR501
1K
R502
120
R501
15K

AA_P300B0

8. LED array PCB


CN901 A DATA1
CN901 D LATCH
CN901 C CK
CN901 H VL
CN901 I VL
CN901 E GND
CN901 F GNDT
CN901 G GNDT
R965 1K
R964 1K
R963 1K
R968 100
R967 100
R966 100
IC903
LS14
C906 1000P
C907 1000P
C908 1000P
C901 47μ/10 X2
C902 0.1μ
C903 0.1μ
C904 0.1μ
C905 0.1μ
IC901
LC7035
BE0
LATCH
STROBE
NC
GND
VDD
CK
D13
D12
D11
D10
D9
D8
D7
D6
D5
D2
D1
S-IN
S-OUT
D19
D20
D21
D22
D23
D24
D25
D26
D27
D28
D32
D31
1
16
17
32
33
48
49
64
IC902
LD901 R901
LD962 R962
TO CONNECTOR

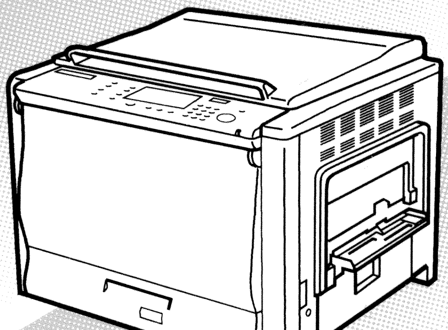
AA_P302B0

ORDER NO. OED9310267C8

Parts Manual

Plain Paper Copier

FP-1680



Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288,
Osaka 530-91, Japan

FP-1680 Parts Manual
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2. Frame .... 4 – 11
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11. Sheet Bypass Tray 36
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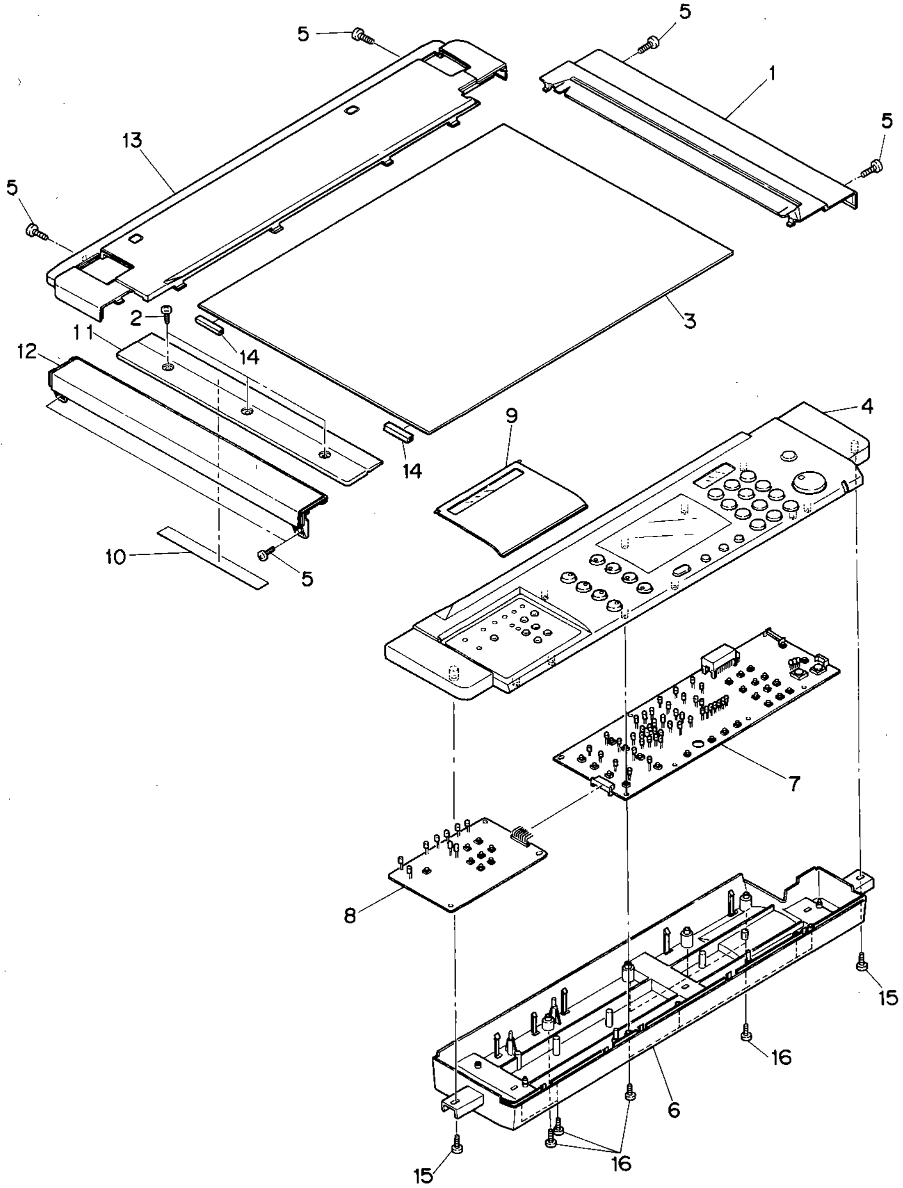
Use and Ordering Information

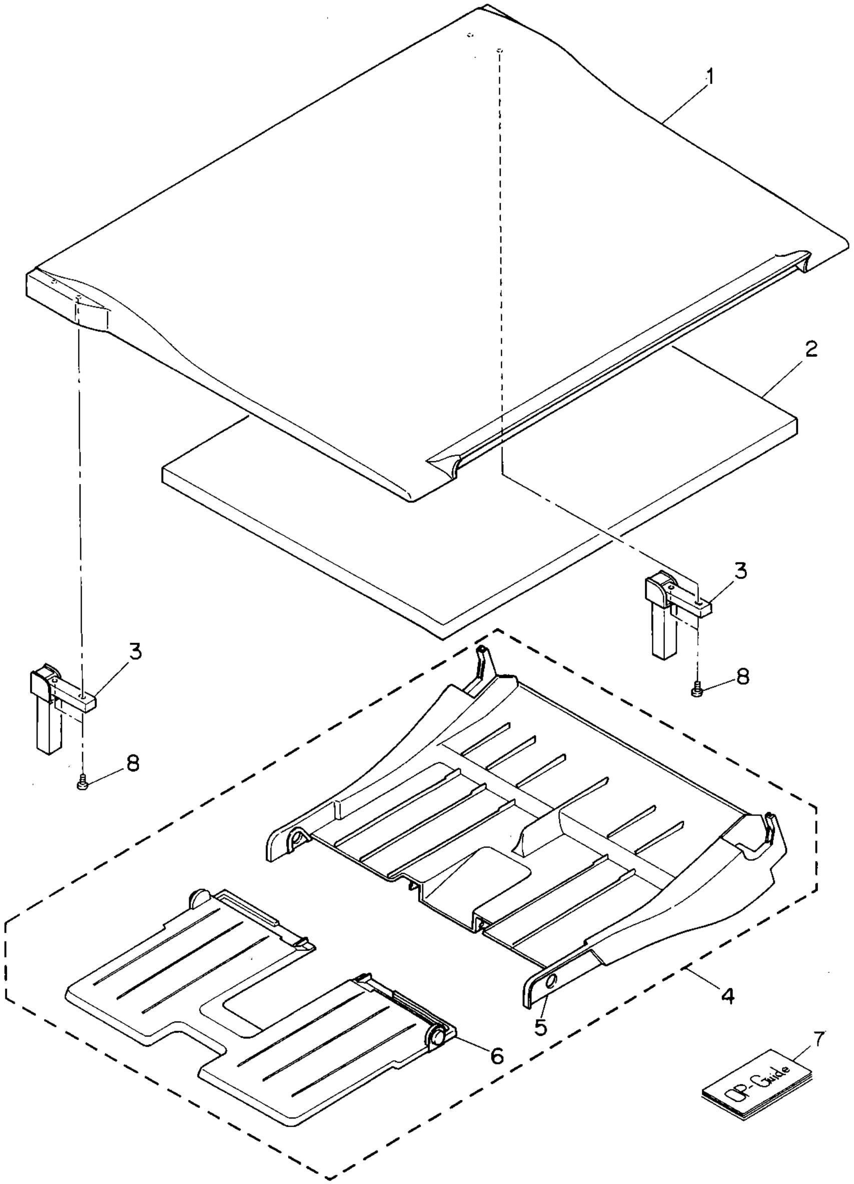
1. Information contained in this Parts manual is subject to change. Change notices and supplementary pages will be issued on a timely basis.
2. Electrical parts supplied may include previously used components.
3. A Numerical Sales Number, Part Number List is located at the rear of this manual.
4. This manual was developed and is supplied to authorized servicing dealers by Panasonic Co. for the sole purpose of providing information necessary for the equipment's proper support. It is intended that this information be confidential and may not be reproduced without prior written consent from Panasonic Co.
5. Panasonic Co. reserves the right to change any information enclosed herein without prior notification.
   (This includes, but is not limited to, parts pricing and availability, and text.)
6. In common column, "C" indicates part is used in previous models, "N" indicates part is used only in Model FP-1680.
7. Important safety notice
   Components indentified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
8. Rank column, "A, B, C, D," indicates the parts replacement frequency.
   - A: Most frequently used
   - B: Frequently used
   - C: Occasionally used
   - D: Hardly used

Covers
Paper Exit Unit
Frame
250 Sheet Paper Tray
Optics
Sheet Bypass Tray
Developer Section
Electronics
Corona
Assemblies
Paper Feed Section
Kit
Paper Transport Unit
Numerical Parts Index
Fuser Unit



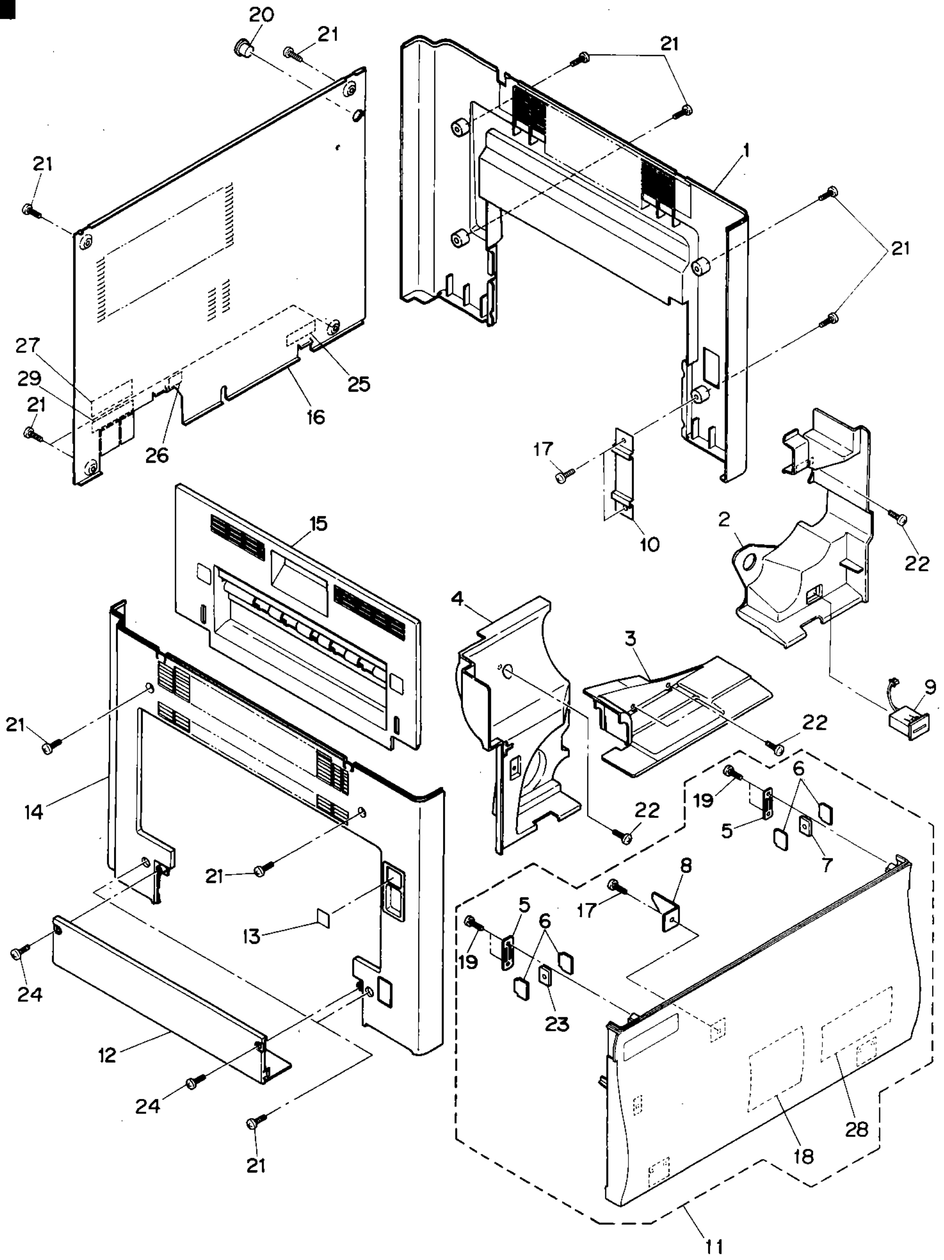
Control Panel

Ref. No.	Part No.	Description	Q'ty Per Unit	Com- mon	Rank
1	FFPXB10901	Top Cover, Right ⚠	1	C	D
2	XST4+6FN	Screw (M4x6)	3	C	D
3	FFPGC0154	Platen Glass	1	C	C
4	FFPXB04D13	Control Panel Ass'y ⚠	1	N	D
5	XTT4+10FFN	Screw (M4x10)	6	C	D
6	FFPNA04674	Lower Cover, Control Panel ⚠	1	C	D
7	FFPWB0469	PCB Control Panel (1)	1	C	C
8	FFPWB0470	PCB Control Panel (2)	1	N	C
9	FFPND00802	Panel Cover	1	C	D
10	FFPHK0717	Sensor Mark Sheet	1	C	D
11	FFPPA03482	Original Guide	1	C	D
12	FFPNA04641	Top Cover, Left	1	C	D
13	FFPNA04621	Top Cover, Rear	1	C	D
14	FFPKN0271	Cushion	2	C	B
15	XTB3+8G	Screw (M3x8)	2	C	D
16	XTB3+12G	Screw (M3x12)	10	C	D



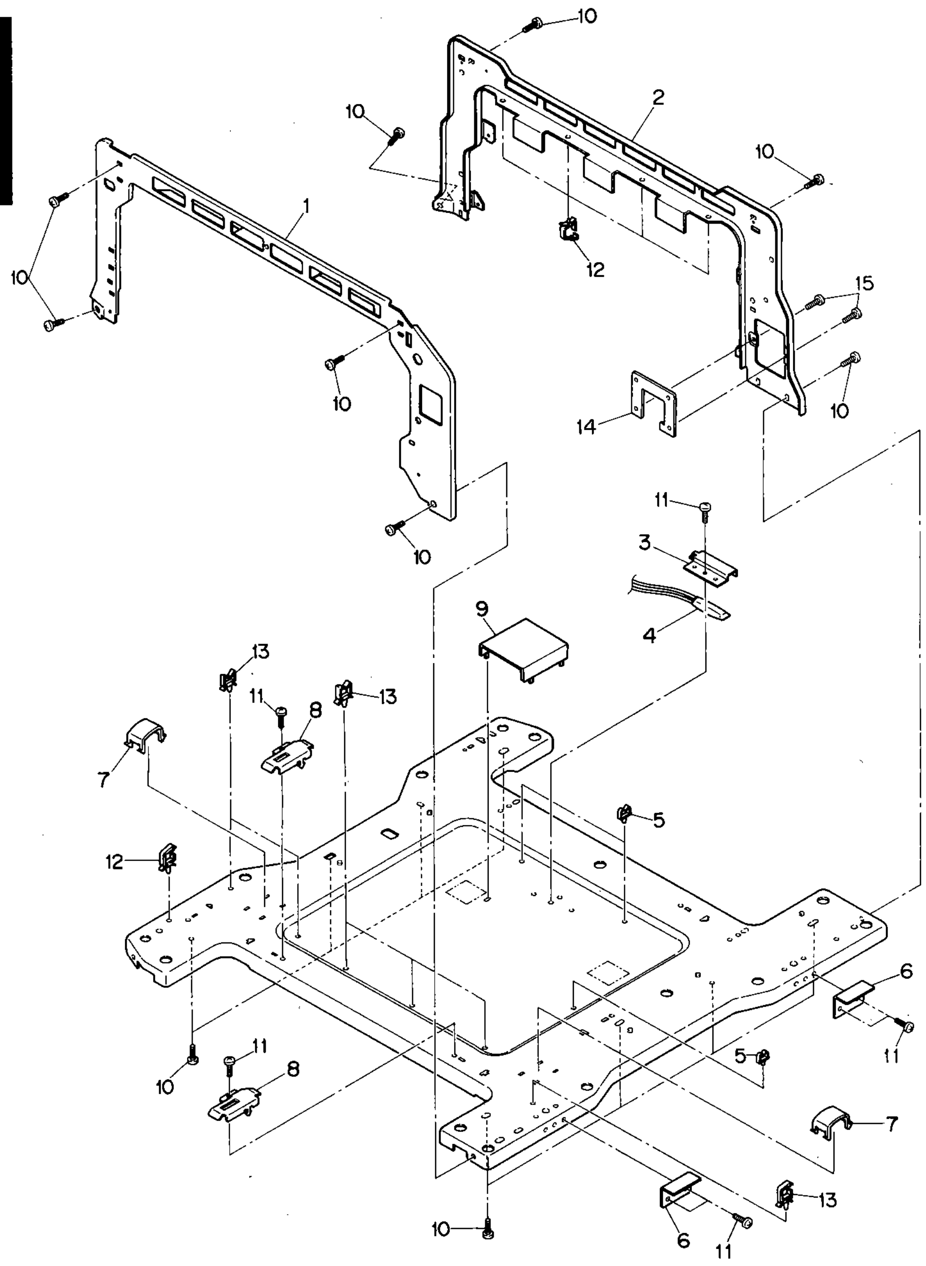
Platen Cover

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPNA04856	Platen Cover	1	C	D
2	FFPNN00333	Platen Rubber	1	C	D
3	FFPNH005011	Hinge	2	C	D
4	FFPXJ039001	Exit Tray Ass'y	1	C	C
5	FFPQA00924	Exit Tray (1)	1	C	C
6	FFPQB000702	Exit Tray (2)	1	C	C
7	FFPTD0638	Operating Guide, English ⚠	1	N	D
7	FFPTD0639	Operating Guide, German ⚠	1	N	D
7	FFPTD0640	Operating Guide, French ⚠	1	N	D
7	FFPTD0641	Operating Guide, Dutch ⚠	1	N	D
7	FFPTD0642	Operating Guide, Italian ⚠	1	N	D
7	FFPTD0643	Operating Guide, Spanish ⚠	1	N	D
7	FFPTD0644	Operating Guide, Swedish ⚠	1	N	D
8	XTN4+12F	Screw (M4x12)	4	C	D



Covers

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPNA04581	Right Cover ⚠	1	C	D
2	FFPKM01722	Inner Cover, Right ⚠	1	C	D
3	FFPKE0856	Inner Cover, Middle ⚠	1	C	D
4	FFPLL04001	Inner Cover, Left ⚠	1	C	D
5	FFPKF1104	Cover Plate	2	C	D
6	FFPKS0298	Magnet Yoke	4	C	D
7	FFPNG00221	Magnet	1	C	D
8	FFPKF09872	Bottle Stopper	1	C	D
9	FFPCV0008	Total Counter	1	C	D
10	FFPKU0144	Reinforcement Plate	1	C	D
11	FFPXB06D12	Front Cover Ass'y ⚠	1	N	D
12	FFPNA04691	Left Cover, Lower ⚠	1	C	D
13	FFPTE1554	Panel, Power Switch	1	C	D
14	FFPXB09903	Left Cover ⚠	1	C	D
15	FFPNA04701	Paper Exit Cover ⚠	1	C	D
16	FFPNA05621	Rear Cover ⚠	1	C	D
17	XTB4+10G	Screw (M4x10)	3	C	D
18	FFPTE1873	Label, Paper Jam	1	C	D
19	XTS3+10G	Screw (M3x10)	4	C	D
20	FFPDC0002	Plastic Cap	1	C	D
21	XTT4+10FFN	Screw (M4x10)	12	C	D
22	XTB4+8F	Screw (M4x8)	4	C	D
23	FFPNG00331	Magnet	1	C	D
24	XSB4+10GFN	Screw (M4x10)	2	C	D
25	FFPTE01661	Label, Warranty	1	C	D
26	FFPTE1516	Label, Cord Disconnect ⚠	1	C	D
27	FFPTE06161	Cution Label, For Nordic ⚠	1	C	D
27	FFPTE06971	Cution Label, For U.K./Australia ⚠	1	C	D
28	FFPTE1845	Label, Toner Replacement	1	C	D
29	FFPTE1515	Label, Over Current	1	C	D


10
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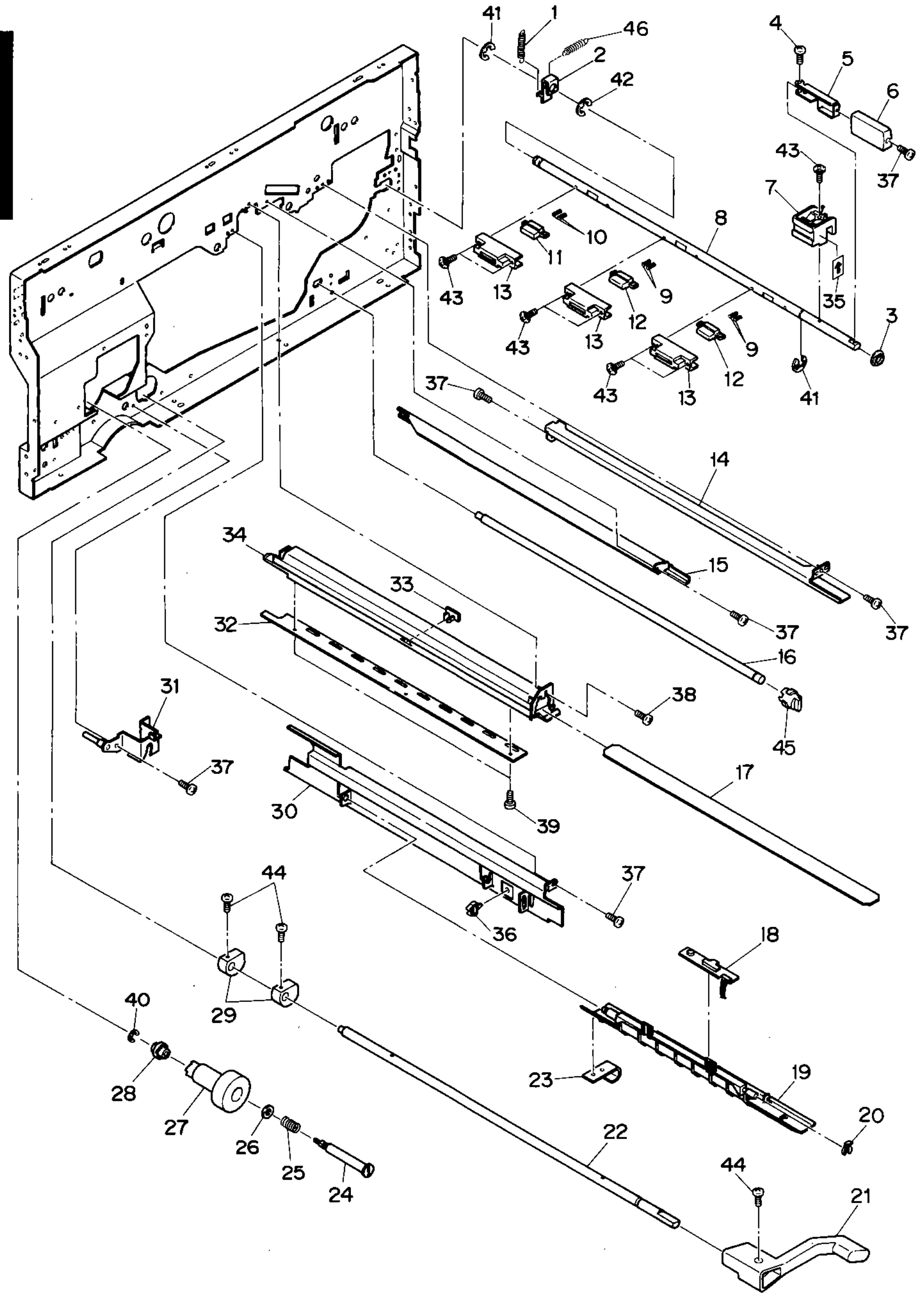
13
10
6
11

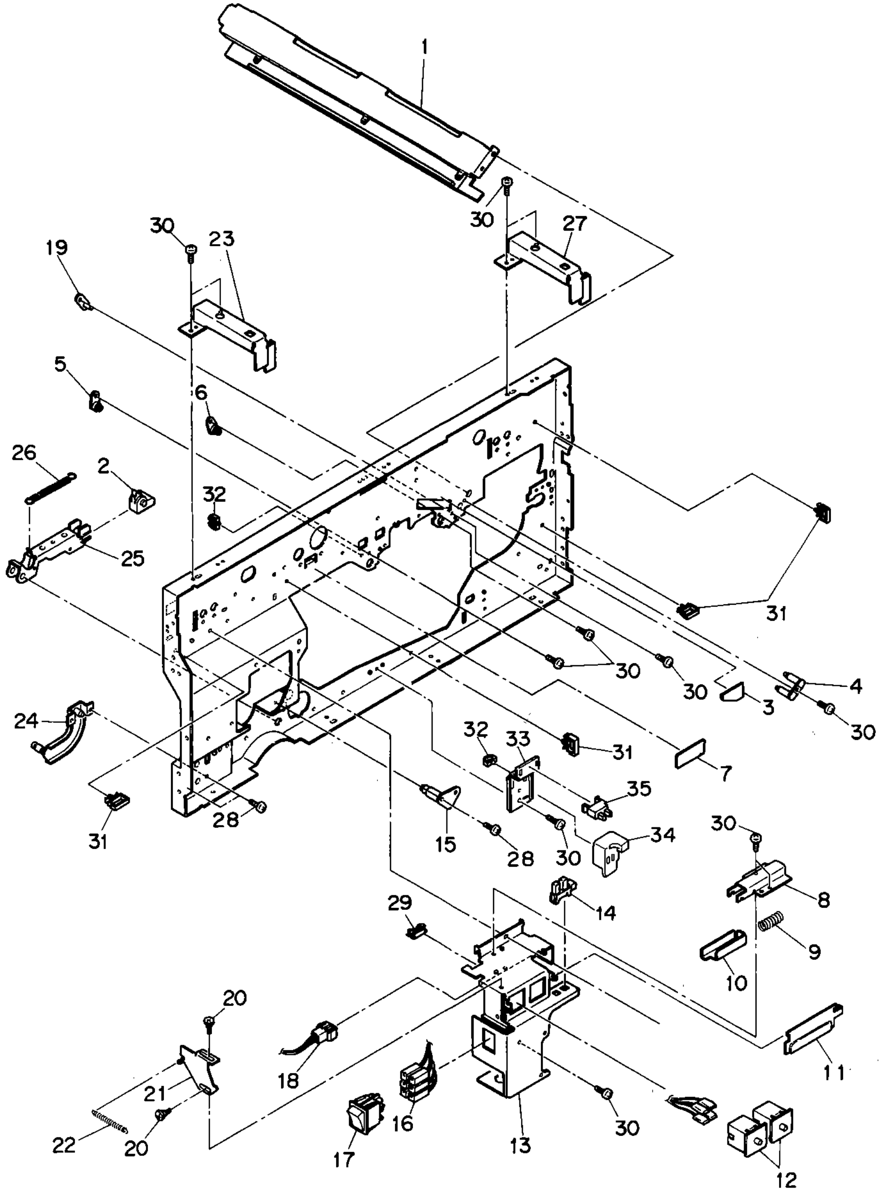
Frame, Bottom

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKU01301	Reinforcement Plate (L)	1	C	D
2	FFPKU01243	Reinforcement Plate (R)	1	C	D
3	FFPKD0779	Heater Holder	1	C	D
4	FFPCP0034	Heater, Dehumiditication ⚠	1	C	C
5	UAMS05S2	Clamp	3	C	D
6	FFPNH00511	Hinge, Front Cover	2	C	D
7	FFPKE07581	Harness Cover	2	C	D
8	FFPKE1107	Fuser Rail, Front	2	C	D
9	FFPKE0884	Heater Cover	1	C	D
10	XTB4+8F	Screw (M4x8)	16	C	D
11	XTB3+6F	Screw (M3x6)	6	C	D
12	LWS1S	Locking Wire Saddle	5	C	D
13	LWS2NS	Locking Wire Saddle	6	C	D
14	FFPKS0190	Plate, Key counter	1	C	D
15	XSS3+8	Screw (M3x8)	2	C	D



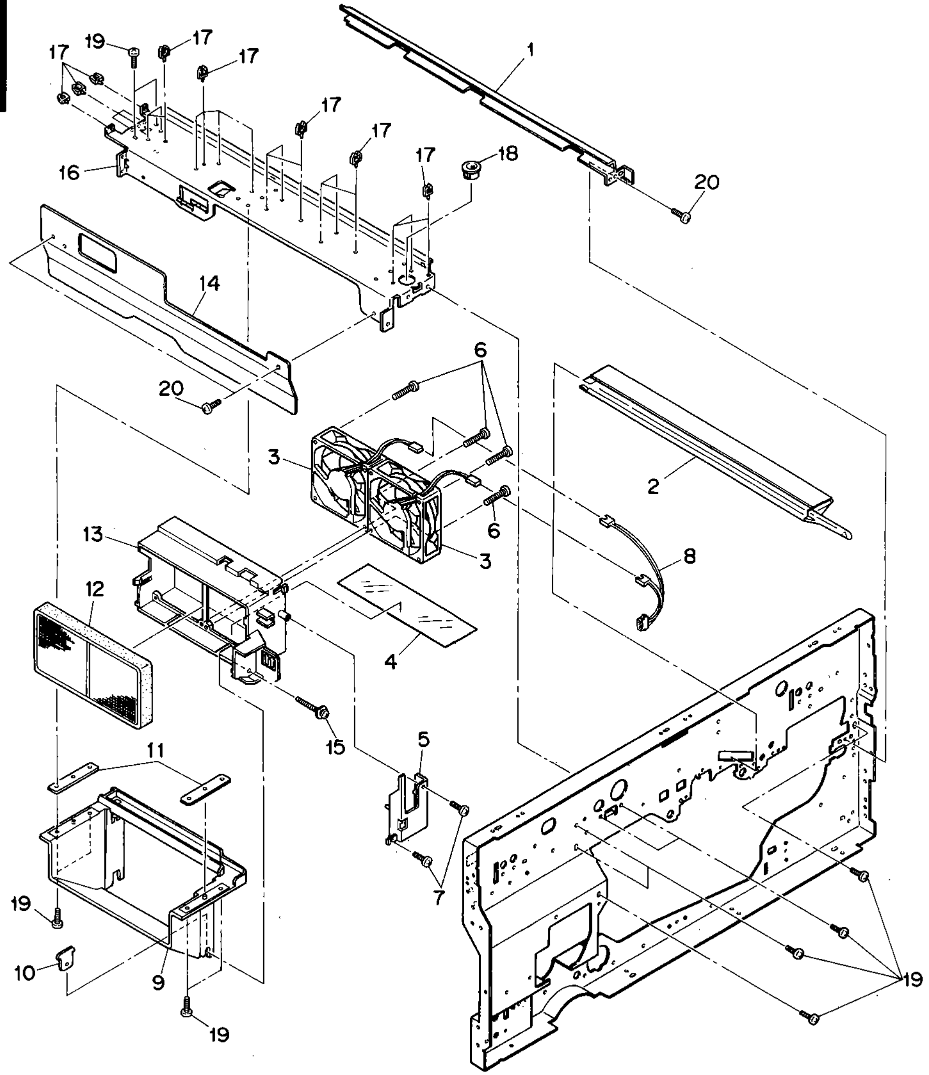
Frame, Front

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPLP0730	Pressure Spring, Developer	1	C	B
2	FFPLL0401	Pressure Lever, Developer	1	C	D
3	FFPMQ0371	Bushing	1	C	B
4	FFPFA0113	Screw, Developer Lever	1	C	D
5	FFPLL04291	Bracket, Developer Knob	1	C	D
6	FFPKM0171	Developer Knob	1	C	C
7	FFPKF09363	Cam (1)	1	C	C
8	FFPLG09501	Shaft	1	C	D
9	FFPLP0729	Spring (1)	4	C	B
10	FFPLP0731	Spring (2)	2	C	B
11	FFPLJ0086	Cam (2)	1	C	C
12	FFPLJ0081	Cam (3)	2	C	C
13	FFPKQ0064	Cam Base	3	C	D
14	FFPKF0932	Developer Rail, Left	1	C	D
15	FFPKF09311	Drum Rail, Right	1	C	D
16	FFPLG1254	Shaft, Paper Feed	1	C	D
17	FFPGB00171	Lamp Filter	1	C	C
18	FFPWB0518	PCB Auto Original Density	1	C	C
19	FFPKQ0108	Base PCB Mounting	1	C	D
20	FFPFJ0033	Snap Ring	1	C	D
21	FFPLA0078	Transport Lever	1	C	D
22	FFPLG0980	Lifting Shaft	1	C	D
23	FFPLQ0280	Spring Plate	1	C	B
24	FFPFA0109	Shoulder Screw	1	C	D
25	FFPLP0742	Knob Spring	1	C	B
26	XWG6	Washer	1	C	D
27	FFPLA00791	Knob	1	C	C
28	FFPHQ0034	Roller Coupling	1	C	B
29	FFPLJ00851	Lift Cam	2	C	C
30	FFPKF0928	Rail, Drum Unit L	1	C	D
31	FFPXA51900	Fulcrum Plate, Lever	1	C	D
32	PQ24V10W	Discharge Lamp	1	C	A
33	FFPKH0212	Glass Spacer	1	C	C
34	FFPKD0744	Lamp Holder, Discharge	1	C	D
35	FFPTE1585	Label, Direction	1	C	D
36	UAMS05S2	Clamp	1	C	D
37	XTB3+6F	Screw (M3x6)	6	C	D
38	XTB3+8F	Screw (M3x8)	1	C	D
39	XTB3+8G	Screw (M3x8)	2	C	D
40	XUC4VM	E Ring	1	C	D
41	XUC8VM	E Ring	2	C	D
42	XUC9VM	E Ring	1	C	D
43	XYN3+F8	Screw (M3x8)	7	C	D
44	XYN4+F10	Screw (M4x10)	3	C	D
45	FFPMQ0450	Bushing	1	C	D
46	FFPLP0721	Pressure Spring	1	C	D



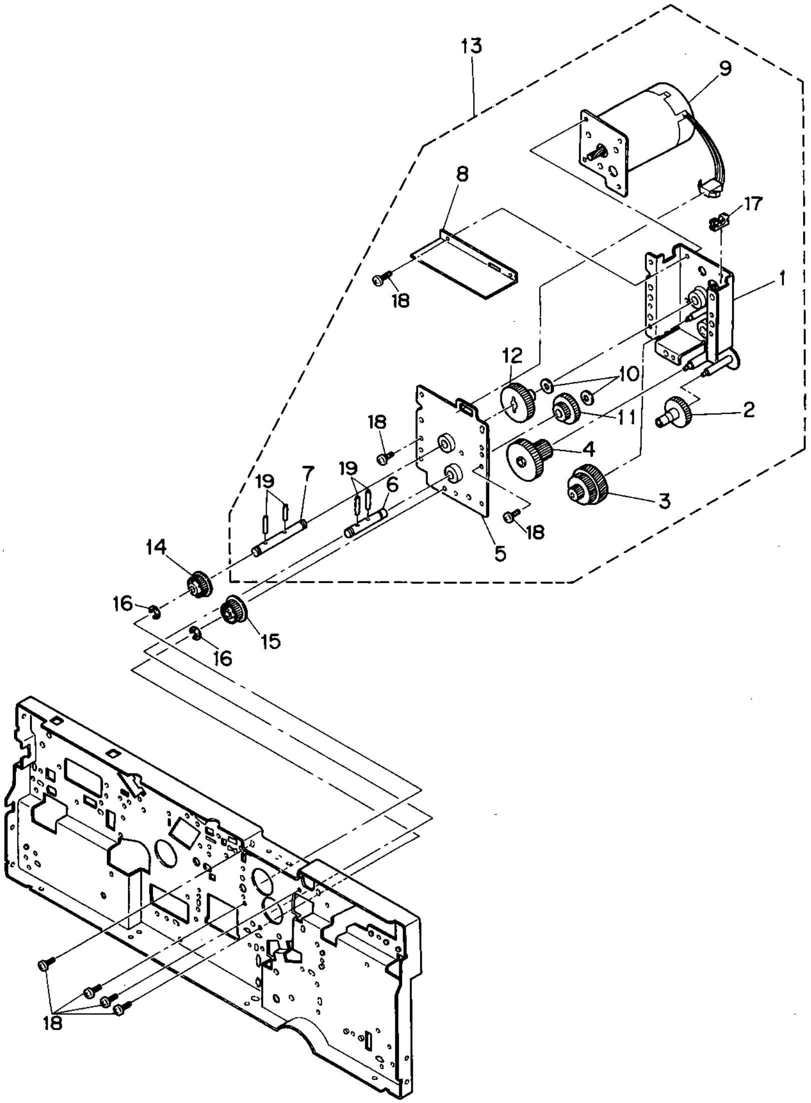
Frame, Front

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXA57900	PCB LED Array	1	C	A
2	FFPLK02281	Front Arm	1	C	D
3	FFPHK0661	Slide Sheet (1)	1	C	D
4	FFPKD0746	LED Holder	1	C	D
5	FFPXA36900	Support Pin, Drum	1	C	D
6	FFPXA38900	Support Pin, Drum	1	C	D
7	FFPHK0662	Slide sheet (2)	1	C	D
8	FFPKF09851	Stopper Rail	1	C	D
9	FFPLP0783	Spring, Stopper Rail	1	C	B
10	FFPKF09841	Stopper (2)	1	C	D
11	FFPLL03991	Switch Lever	1	C	D
12	F921-A14L	Door Switch ⚠	2	C	B
13	FFPKR13675	Bracket, Door Switch	1	C	D
14	GP1A71A1	Sensor, Front Door	1	C	B
15	FFPXA54900	Fulcrum Pin, Transport	1	C	D
16	FFPWC1385	AJ Harness ⚠	1	C	D
17	SIG8226-1BB	Power Switch ⚠	1	C	B
18	FFPWC1207	VPD Harness	1	C	D
19	FFPXA37900	Support Pin, Developer	1	C	D
20	FFPFA0072	Shoulder Screw	2	C	D
21	FFPKF0983	Stopper (1)	1	C	D
22	FFPLP0784	Stopper Spring	1	C	B
23	FFPKR1481	Bracket 3, Control Panel	1	C	D
24	FFPXA019501	Fulcrum Bracket, Front	1	C	D
25	FFPLL04061	Lever	1	C	D
26	FFPLP07391	Lift Spring	1	C	B
27	FFPKR14221	Bracket 1, Control Panel	1	C	D
28	XTB4+8F	Screw (M4x8)	3	C	D
29	EDS2	Edge Saddle	1	C	D
30	XTB3+6F	Screw (M3x6)	12	C	D
31	LWS1S	Locking Wire Saddle	4	C	D
32	UAMS05S2	Clamp	2	C	D
33	FFPKR15001	Bracket, Sensor Mounting	1	C	D
34	FFPKE08572	Sensor Cover	1	C	D
35	EESX461P4	Sensor, Waste Toner	1	C	B



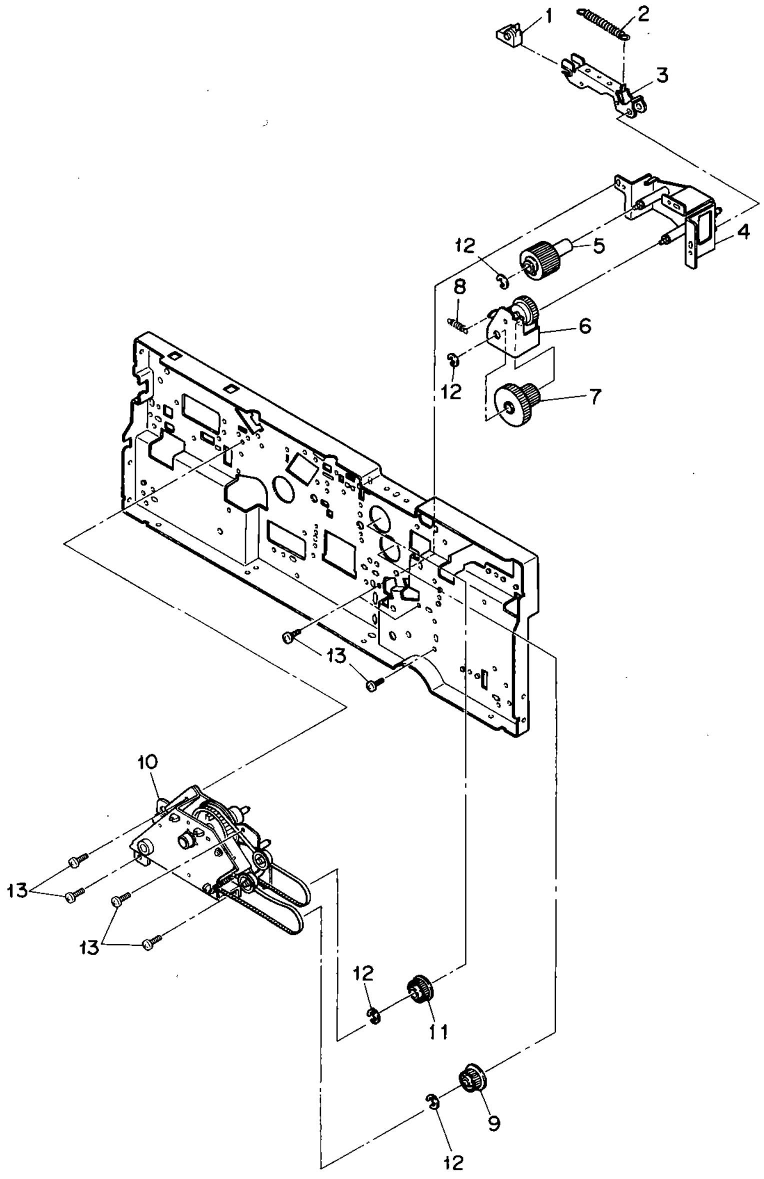
Frame, Front

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKF0933	Rail,Developer R	1	C	C
2	FFPXA63A42	Slit Glass	1	C	C
3	SO8C24DURC1	Exhaust Fan	2	C	C
4	FFPHK0860	Fan Sheet	1	C	C
5	FFPKE0943	PCB Cover	1	C	D
6	XTN4+34G	Screw(M4x34)	4	C	D
7	XTB3+8G	Screw(M3x8)	2	C	D
8	FFPWC1455	EF Harness	1	C	D
9	FFPHA0063	Duct	1	C	D
10	FFPKS0962	Spacer	1	C	D
11	FFPKN0319	Rubber Plate	2	C	C
12	FFPHJ00332	Ozone Filter	1	C	A
13	FFPXA40B40	Fan Holder w/Mylar	1	C	D
14	FFPKS0961	Separation Plate	1	C	D
15	SYN4+F12	Screw(M4x12)	1	C	D
16	FFPKD11111	Duct Stav	1	C	D
17	UAMS05S2	Clamp	21	C	D
18	TB1520	Busning	1	C	D
19	XTB4+8F	Screw(M4x8)	12	C	D
20	XTB3+6F	Screw(M3x6)	3	C	D



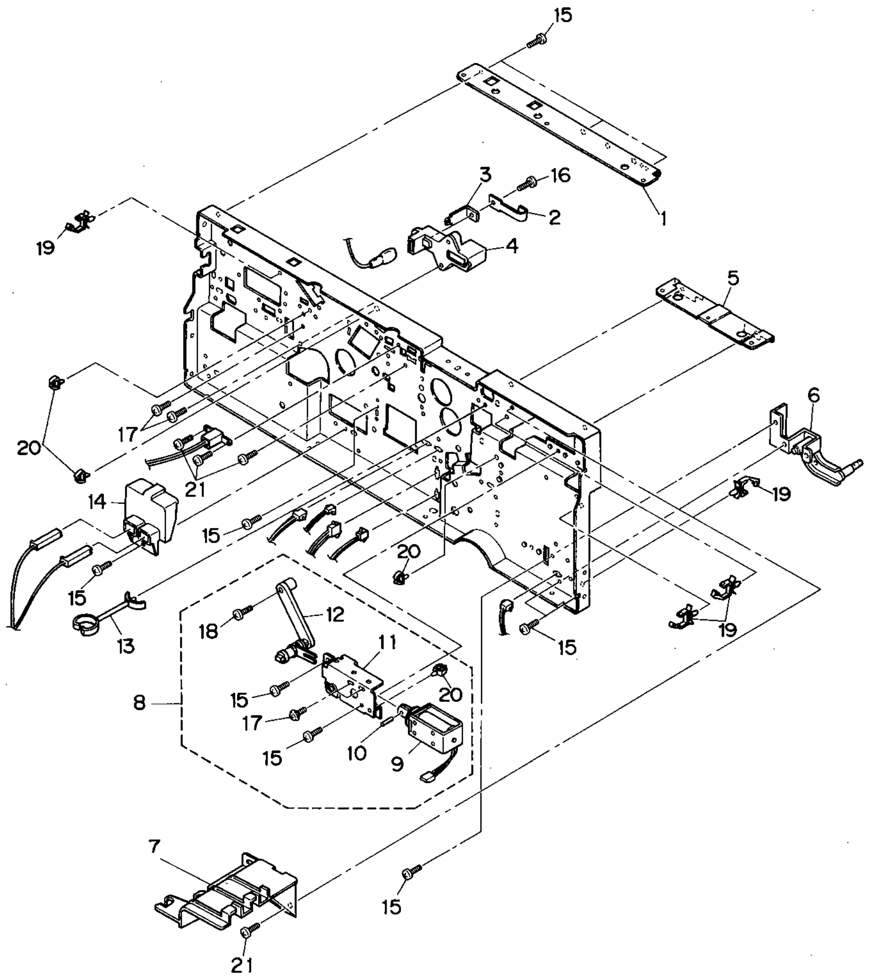
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXA039001	Rear Frame, Speed Reduction	1	C	D
2	FFPMF0683	Drive Gear, Transfer	1	C	D
3	FFPMF06793	Gear 1, Speed Reduction	1	C	D
4	FFPMF0682	Drive Gear, Fuser	1	C	D
5	FFPXA069001	Front Frame, Speed Reduction	1	C	D
6	FFPLG09443	Drive Shaft 2	1	C	D
7	FFPLG09432	Drive Shaft 1	1	C	D
8	FFPKE0760	Gear Cover	1	C	D
9	PVX24C4WA	Main Motor	1	C	D
10	FFPMV0037	Polyslider	2	C	D
11	FFPMF06811	Drive Gear 2	1	C	D
12	FFPMF0680	Drive Gear 1	1	C	D
13	FFPXA08B001	Main Motor Ass'y	1	C	C
14	FFPMB01391	Motor Pulley 1	1	C	D
15	FFPMB0140	Motor Pulley 2	1	C	D
16	XUC7VM	E Ring	2	C	D
17	EDS2	Edge Saddle	1	C	D
18	XTB4+8F	Screw (M4x8)	7	C	D
19	XPJ2D16WV	Pin	4	C	D



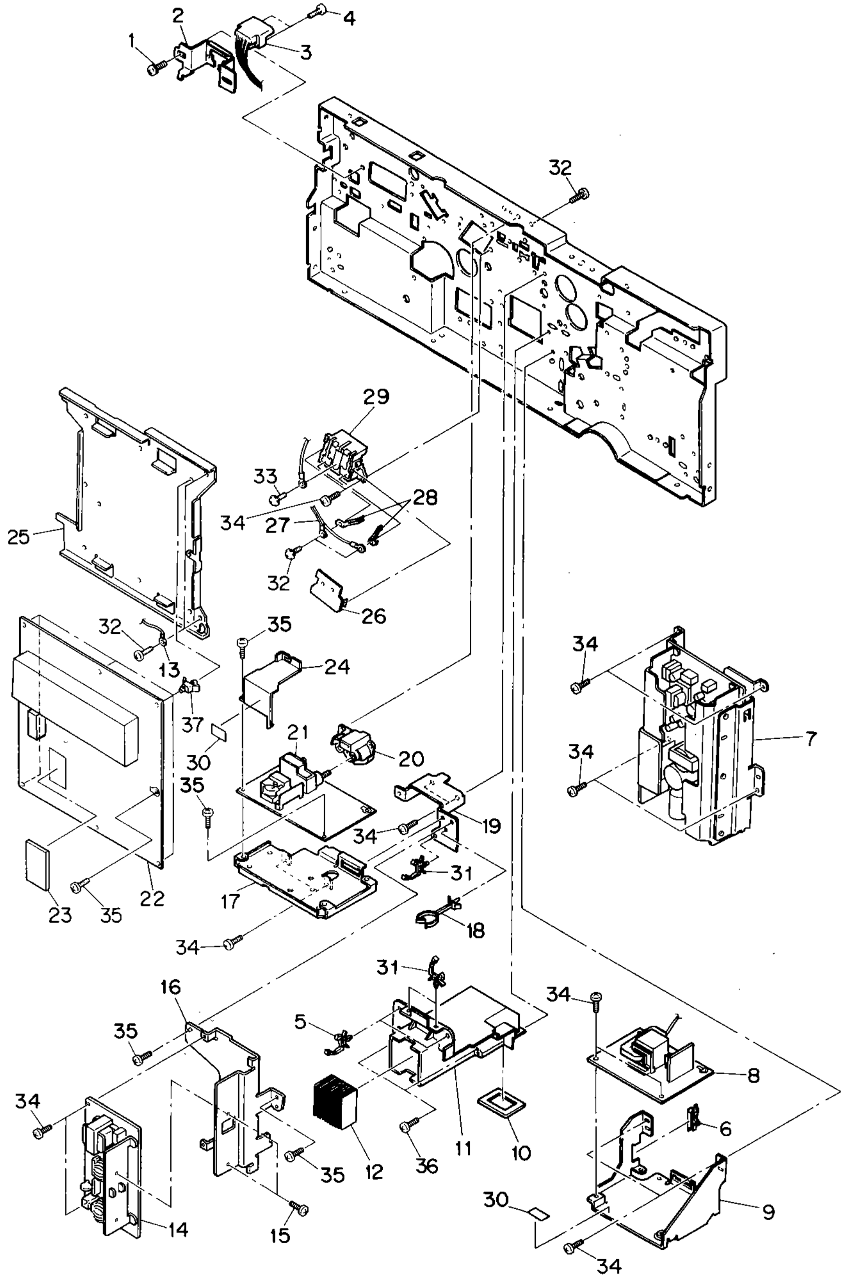
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPLK02291	Front Arm	1	C	D
2	FFPLP07391	Lift Spring	1	C	B
3	FFPLL04061	Lever	1	C	D
4	FFPXA10B50	Slide Bracket, Fuser Drive	1	C	D
5	FFPMF0822	Drive Gear	1	C	C
6	FFPXA09900	Gear Unit, Fuser Drive	1	C	C
7	FFPMF0682	Gear, Fuser Drive	1	C	C
8	FFPLP07281	Spring	1	C	B
9	FFPMB0140	Motor Pulley 2	2	C	D
10	FFPXA27B501	Drive Block Ass'y	1	C	C
11	FFPMB01391	Motor Pulley 1	1	C	D
12	XUC7VM	E Ring	4	C	D
13	XTB4+8K	Screw (M4x8)	6	C	D



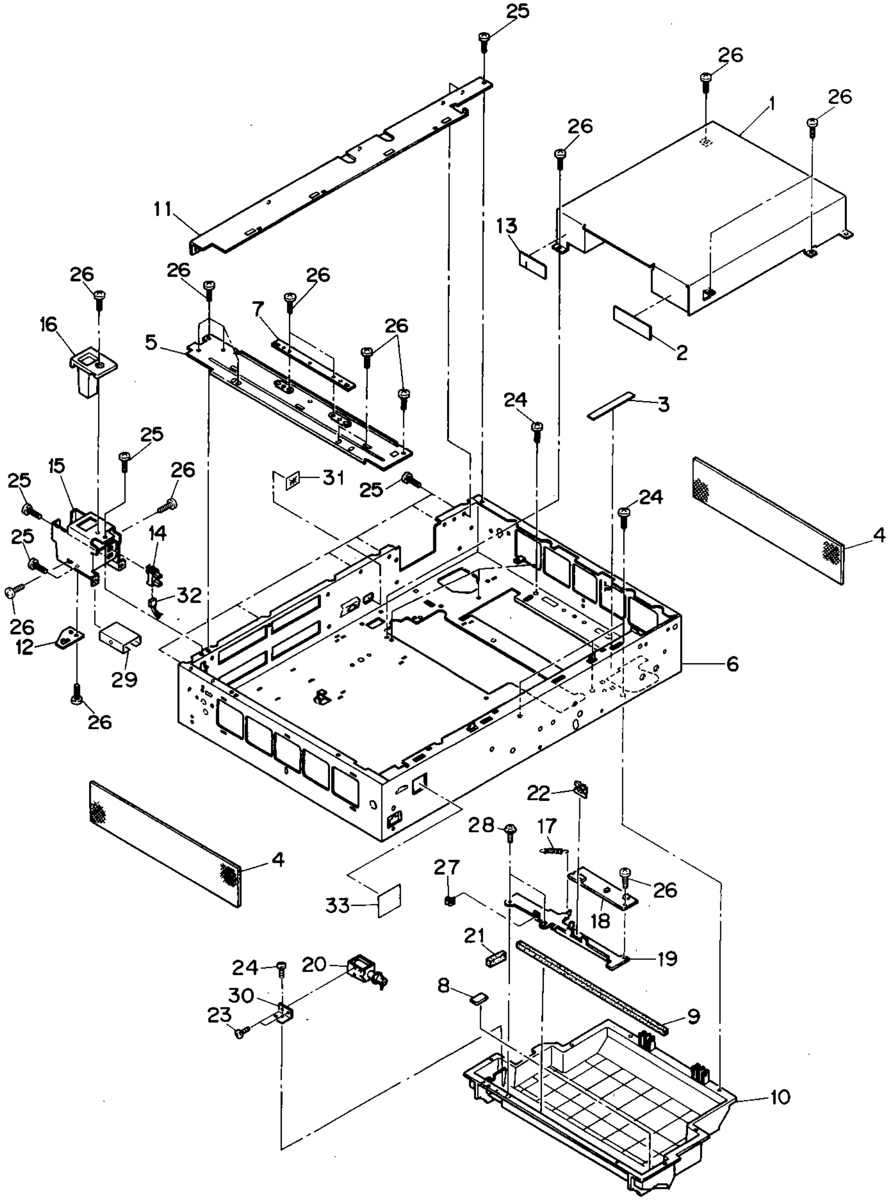
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKS06522	Positioning Plate, Optics L	1	C	D
2	FFPDK01872	Bias Lead (2)	1	C	C
3	FFPDF0209	Bias AC Lead	1	C	C
4	FFPDE00372	Bias Terminal	1	C	C
5	FFPKS0655	Positioning Plate, Optics S	1	C	D
6	FFPXA139502	Fulcrum Bracket, Rear	1	C	D
7	FFPKE08662	SW Power Cover	1	C	D
8	FFPXA16900	Solenoid Ass'y, Cleaning Web	1	C	D
9	FFPEQ0062	Solenoid, Cleaning Web	1	C	D
10	XPL3A12WV	Spring Pin	1	C	D
11	FFPKR1409	Solenoid Bracket	1	C	D
12	FFPLL04101	Lever 2	1	C	D
13	HL38-0	Harness Lifter	1	C	D
14	FFPDA00271	T-DT Socket	1	C	C
15	XTB4+8F	Screw (M4x8)	10	C	D
16	XTB3+8G	Screw (M3x8)	1	C	D
17	XYN3+F6	Screw (M3x6)	4	C	D
18	XTB4+8G	Screw (M4x8)	1	C	D
19	LWS1S	Locking Wire Saddle	4	C	D
20	UAMS05S2	Clamp	4	C	D
21	XTB3+8F	Screw (M3x8)	4	C	D



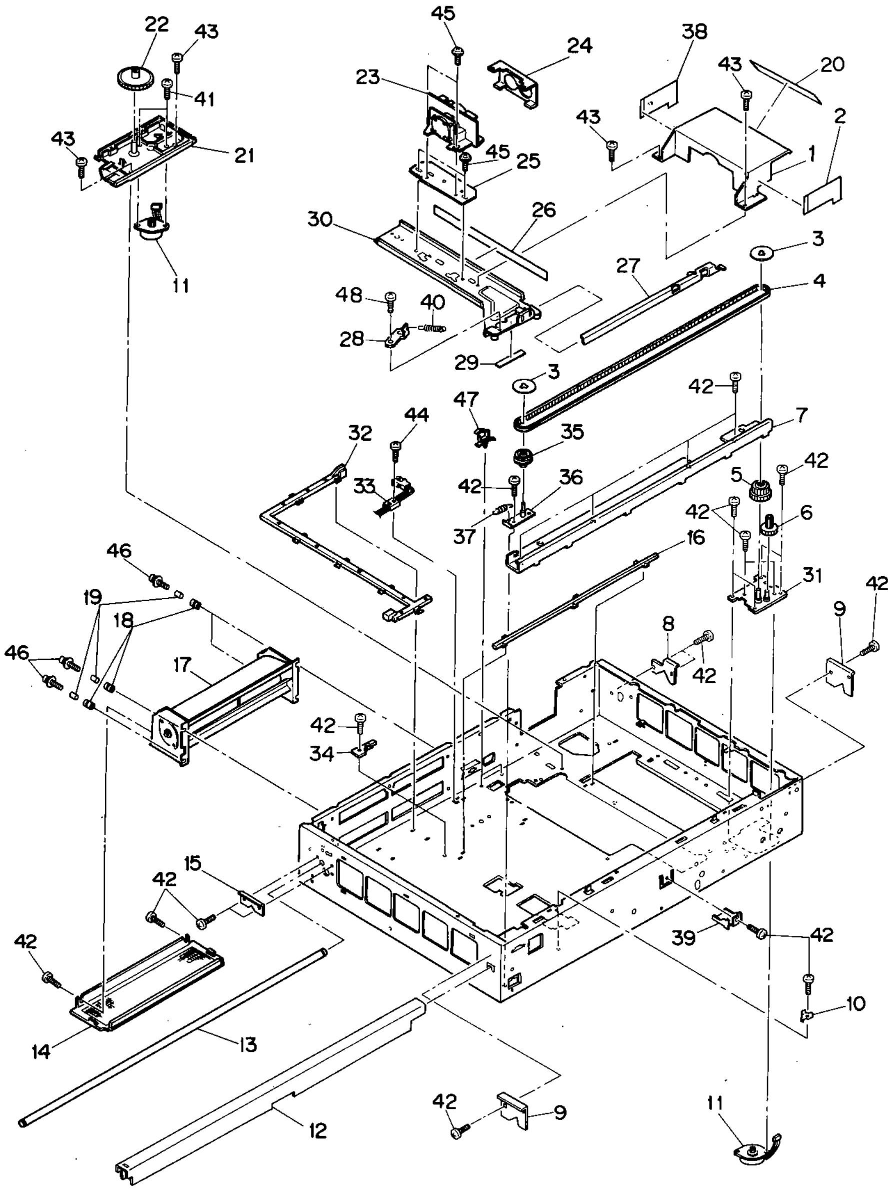
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPFA0072	Shoulder Screw	1	C	D
2	FFPKD07451	Connector Bracket	1	C	D
3	FFPWC1452	CN Harness	1	C	D
4	FFPFA0114	Shoulder Screw	2	C	D
5	LWS2NA	Locking Wire Saddle	2	C	D
6	EDS2	Edge Saddle	1	C	D
7	FFPWB05272	PCB LVPS ⚠	1	C	C
7	FFPWB05275	PCB LVPS (or) ⚠	1	C	C
8	EUKSBN409HB	PCB HVPS (2) ⚠	1	C	C
9	FFPKR13711	Bracket HVPS Mounting	1	C	D
10	FFPKN0251	Duct Sela	1	C	B
11	FFPHA00472	Duct ⚠	1	C	D
12	FFPHJ0032	Filter	1	C	A
13	FFPWC1411	Ground Lead	1	C	D
14	FFPWB05332	PCB AC Driver	1	C	C
14	FFPWB05333	PCB AC Driver, For Nordic	1	C	C
15	XTB3+8J	Screw (M3x8)	2	C	D
16	FFPKR1572	Bracket, AC Driver	1	C	D
17	FFPKR13701	Bradket 1, High Voltage	1	C	D
18	HL18-0	Harness Lifter	1	C	D
19	FFPKU01121	Support Bracket, High Voltage	1	C	D
20	FFPDA00253	Socket, High Voltage ⚠	1	C	C
21	EUKMBN410HA	PCB HVPS (1) ⚠	1	C	C
22	FFPWB05437	PCB CPU W/O P-Rom	1	C	C
23	FFPAH0166M	P-Rom	1	N	C
24	FFPKE08252	Cover HVPS ⚠	1	D	C
25	FFPKR14991	Plate, CPU Mounting	1	C	D
26	FFPJA0227	Lid, Corona Lead	1	C	C
27	FFPWC1203	HV Harness 1 ⚠	1	C	D
28	FFPDF0210	Corona Lead	2	C	C
29	FFPDE0035	Corona Terminal	1	C	C
30	FFPTE1621	Caution Label, High Voltage ⚠	2	C	D
31	LWS1S	Locking Wire Saddle	3	C	D
32	XTB3+8G	Screw (M3x8)	5	C	D
33	XYN3+F8	Screw (M3x8)	1	C	D
34	XTB3+8F	Screw (M3x8)	16	C	D
35	XTB3+6F	Screw (M3x6)	5	C	D
36	XTB4+8F	Screw (M4x8)	2	C	D
37	KGLS3S	Locking Spacer	6	C	D



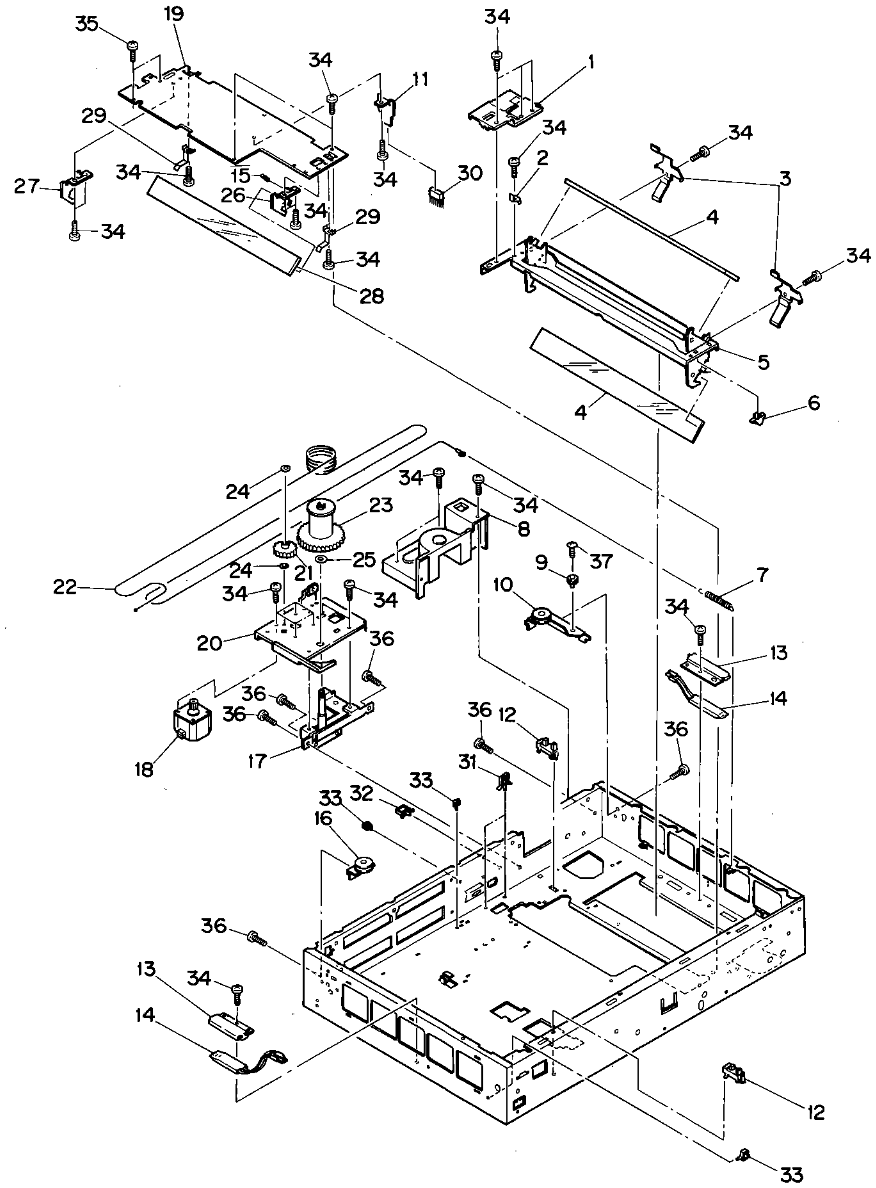
Optics Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0892	Optics Cover	1	C	D
2	FFPJC01891	Insulation Sheet A	1	C	C
3	FFPHK0634	Slide Sheet	1	C	C
4	FFPGB00201	Filter, Anti-Dust	2	C	A
5	FFPKR1387	Support, Glass Holder	1	C	D
6	FFPKB06804	Optics Frame	1	C	D
7	FFPKS0669	Adjusting Plate	1	C	D
8	FFPKP0054	Felt	1	C	B
9	FFPKN0274	Sponge Seal	1	C	B
10	FFPKE08931	Lower Cover	1	C	D
11	FFPKD07742	Glass Support, Rear	1	C	D
12	FFPKR14751	Holder, ADF Connector	1	C	D
13	FFPJC01971	Insulation Sheet D	1	C	C
14	GP3A57A1	Optics Sensor	1	C	B
15	FFPKR13891	ADF Bracket	1	C	D
16	FFPLT0090	Sleeve	1	C	C
17	FFPLP07381	AE Spring	1	C	B
18	FFPWB0471	PCB Copy Density	1	C	C
19	FFPLL05011	AE Lever	1	C	D
20	FFPXK03900	AE Solenoid	1	C	D
21	FFPKN0275	Sponge Seal	1	C	B
22	EDS2	Edge Saddle	1	C	D
23	XYN3+F6	Screw (M3x6)	2	C	D
24	XTB3+8G	Screw (M3x8)	7	C	D
25	XTB4+6F	Screw (M4x6)	10	C	D
26	XTB3+6F	Screw (M3x6)	17	C	D
27	UAMS05S2	Clamp	1	C	D
28	XTW3+8G	Screw (M3x8)	2	C	D
29	FFPKU01132	Reinforcement Bracket	1	C	D
30	FFPKR1580	Bracket, S0 Mounting	1	C	D
31	FFPPJ01461	Cover Sheet	1	C	D
32	FFPWC1360	KM Harness	1	C	D
33	FFPPJ0141	Cover Sheet	1	C	D



Optics Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Common	Rank
1	FFPKE0894	Lens Cover	1	C	D
2	FFPJC0203	Insulation Seal C	1	C	C
3	FFPKQ0074	Flange	2	C	D
4	FFPMN0082	Belt	1	C	C
5	FFPMB0137	Pulley (1)	1	C	D
6	FFPMF0675	Idle Gear, Lens	1	C	C
7	FFPKF11283	Rail, Lens Frame	1	C	D
8	FFPKD0775	Support, Slide Shaft	1	C	D
9	FFPKD1230	Support, Guide Shaft	2	C	D
10	FFPKD07771	Support	1	C	D
11	42SPM24DCYE	Stepping Motor	2	C	C
12	FFPKF1207	Guide Shaft, Optics	1	C	D
13	FFPLG0961	Slide Shaft	1	C	D
14	FFPXK27950	Ozone Filter	1	C	D
15	FFPKD0711	Support, Slide Shaft	1	C	A
16	FFPKF0940	Lens Rail	1	C	D
17	FS04519BS	Optics Fan	1	C	C
18	FFPKN0256	Rubber A, Anti-Vibration	4	C	B
19	FFPLT0088	Rubber Sleeve, Anti-Vibration	4	C	B
20	FFPHK0808	Insulation Sheet	1	C	C
21	FFPKB0696	Frame, 4/5 Mirror Drive	1	C	D
22	FFPMF0676	Idle Gear	1	C	C
23	FFPGA0042	Lens	1	C	D
24	FFPJC01871	Slit, Supplementary	1	C	C
25	FFPKS06711	Adjusting Plate, Lens	1	C	D
26	FFPJC01951	Insulation Sheet B	1	C	C
27	FFPKS08951	Plate, Lens Positioning	1	C	D
28	FFPKS0896	Lift Lever	1	C	D
29	FFPHK0807	Slide Sheet	1	C	C
30	FFPKB08161	Lens Frame	1	C	D
31	FFPKB0818	Bracket, Pulley Mounting	1	C	D
32	FFPKE0770	Harness Cover	1	C	D
33	FFPKD0773	Harness Holder	1	C	D
34	FFPKD0778	Metal Plate (2)	1	C	D
35	FFPMB0138	Pulley (2)	1	C	D
36	FFPKR1576	Plate, Pulley Mounting	1	C	D
37	FFPLP0857	Tension Spring	1	C	B
38	FFPJC0204	Insulation Sheet E	1	C	C
39	FFPKR1383	Bracket, Optics Cover	1	C	D
40	FFPLP0856	Tension Spring	1	C	B
41	XSB3+6	Screw (M3x6)	2	C	D
42	XTB3+6F	Screw (M3x6)	22	C	D
43	XTB3+6FFZ	Screw (M3x6)	4	C	D
44	XTB3+8F	Screw (M3x8)	1	C	D
45	XYN3+F6	Screw (M3x6)	4	C	D
46	XYN4+F12	Screw (M4x12)	4	C	D
47	LWS1NA	Locking Wire Saddle	2	C	D
48	FFPFA0121	Shoulder Screw	1	C	D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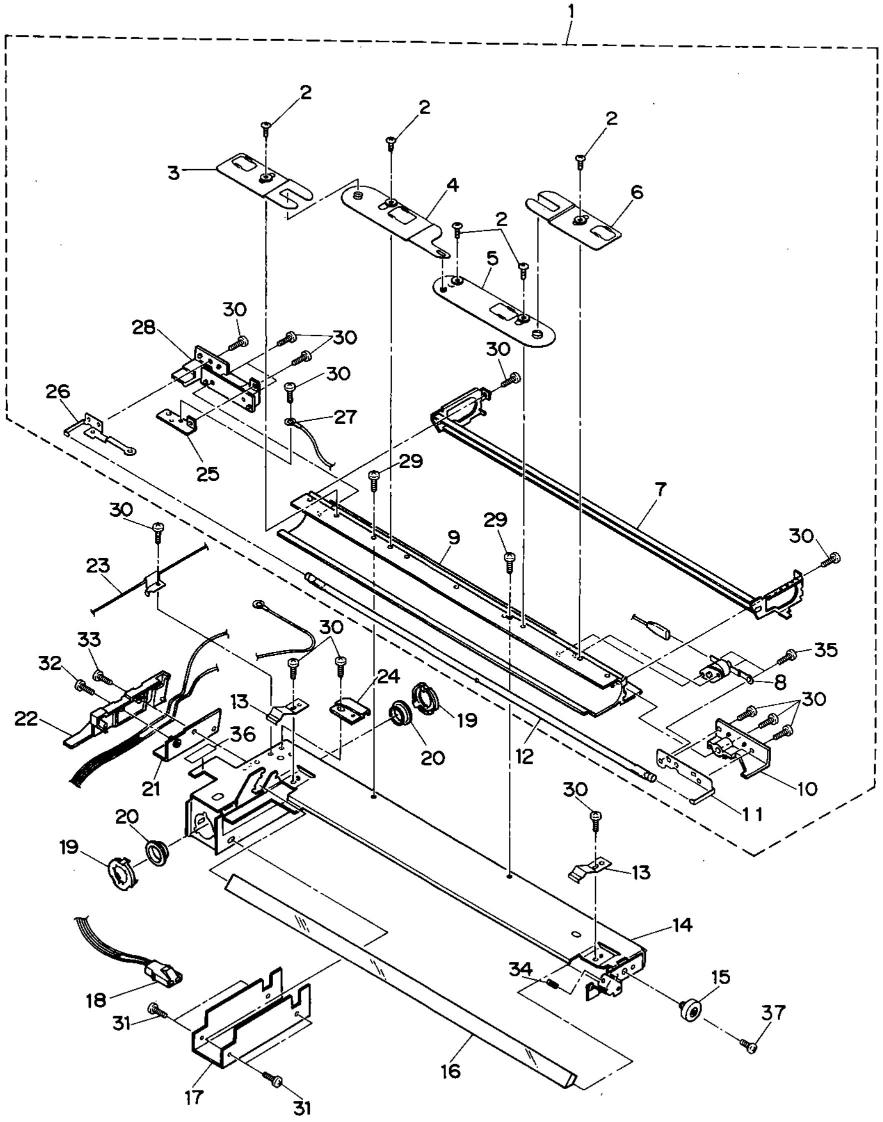
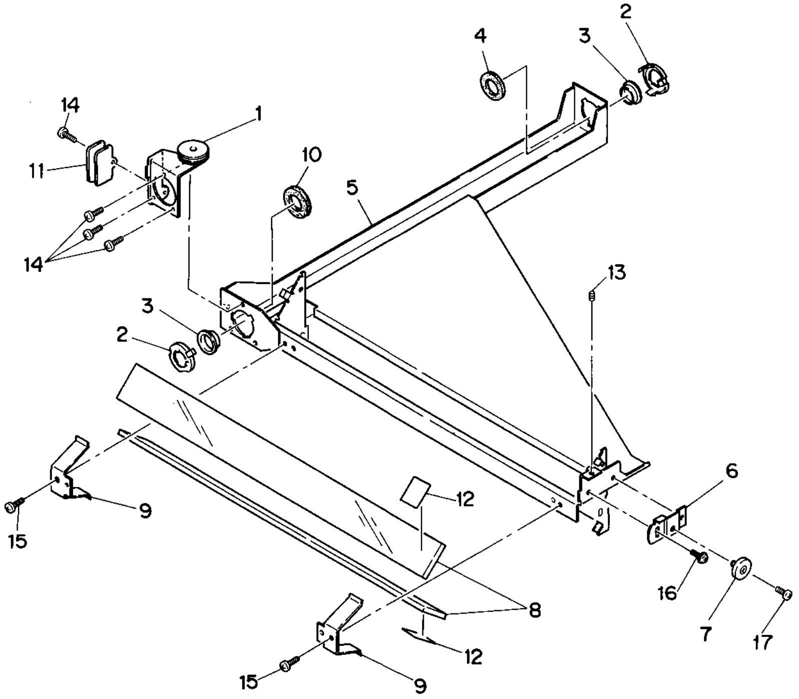
Optics Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Common	Rank
1	FFPMF07034	Rack	1	C	C
2	FFPKD07771	Support	1	C	D
3	FFPLQ0268	Spring, 4/5 Mirror Support	2	C	B
4	FFPGC0156	4/5 Mirror	2	C	D
5	FFPKB06954	Frame, 4/5 Mirror	1	C	D
6	FFPKM0169	Slider	1	C	C
7	FFPLP0821	Tension Spring	1	C	B
8	FFPKE077111	Cover	1	C	D
9	FFPMB0171	Pulley B	1	C	D
10	FFPXK229001	Pulley D with Bracket	1	C	D
11	FFPKR1575	Bracket, Brush	1	C	D
12	GP1A71A1	Sensor, Reduction/Enlargement	2	C	B
13	FFPKD0779	Heater Holder	2	C	D
14	FFPCP0035	Heater, Dehumidification ⚠	2	C	C
15	XXE3D8FP	Set Screw	1	C	D
16	FFPXK20900	Pulley E	1	C	D
17	FFPXK23900	Motor Bracket	1	C	D
18	FFPXK31900	Stepping Motor, Optics	1	C	C
19	FFPKR1574	Mirror Bracket	1	C	D
20	FFPXK249001	Motor Frame	1	C	D
21	FFPMF0700	Idle Gear	1	C	C
22	FFPMW00451	Drive Cable	1	C	B
23	FFPMD00191	Cable Drum	1	C	D
24	FFPMV0010	Polyslider	2	C	D
25	FFPMV0031	Polyslider	1	C	D
26	FFPKB08141	Front Frame	1	C	D
27	FFPKB08151	Rear Frame	1	C	D
28	FFPGC0152	No.6 Mirror	1	C	D
29	FFPLQ0330	Spring, Mirror Support	2	C	B
30	FFPJG0001	Cleaning Brush	1	C	B
31	LWS1NA	Locking Wire Saddle	2	C	D
32	LWS2NA	Locking Wire Saddle	1	C	D
33	UAMS05S2	Clamp	3	C	D
34	XTB3+6F	Screw (M3x6)	25	C	D
35	XTB3+6FFZ	Screw (M3x6)	2	C	D
36	XTB4+6F	Screw (M4x6)	7	C	D
37	XTB4+8F	Screw (M4x8)	1	C	D



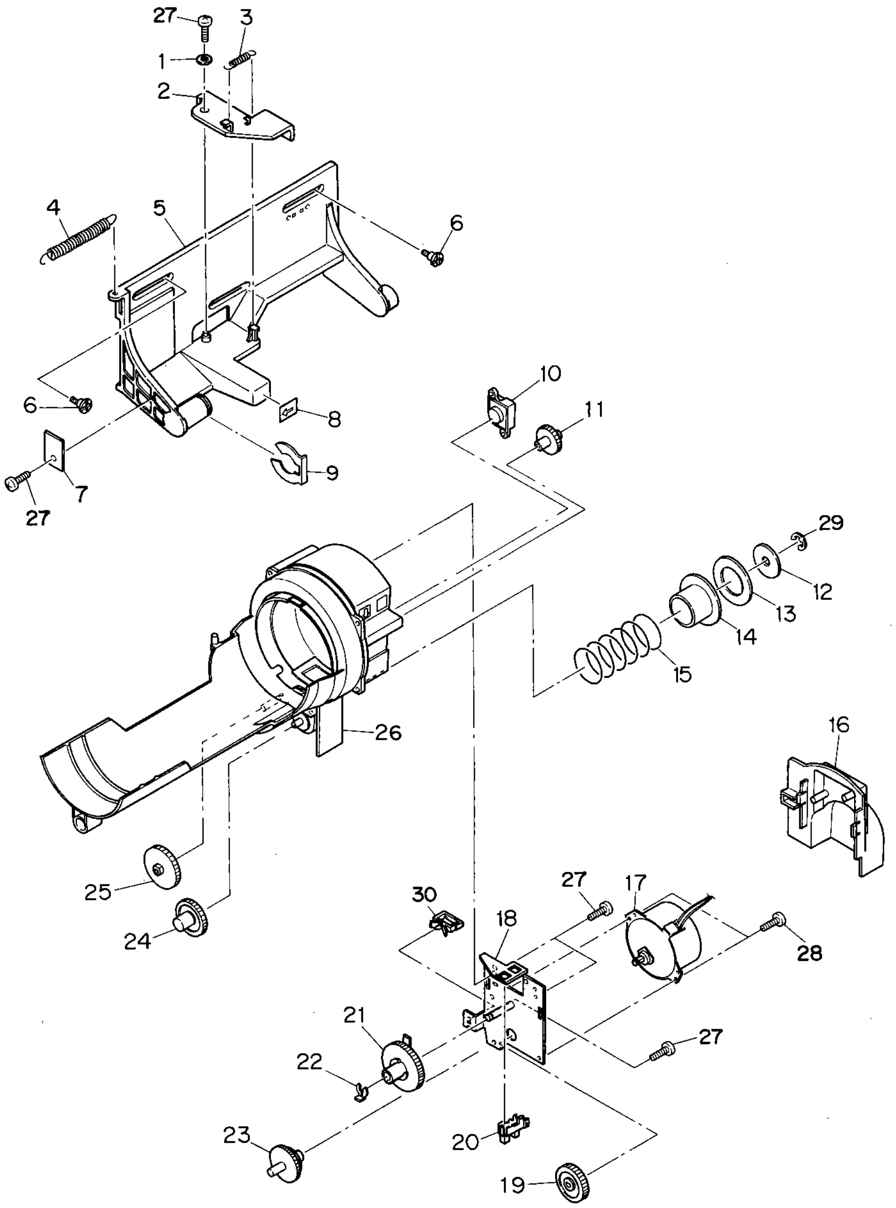
Optics, Exposure Lamp Unit

Ref. No.	Part No.	Description		Q'ty Per Unit	Com-mon	Rank
1	FFPXK17903	Exposure Lamp Unit		1	C	A
2	FFPFA0111	Screw, Slit Plate		5	C	D
3	FFPJC0191	Adjust Plate, Optics		1	C	D
4	FFPJC0194	Adjust Plate, Optics		1	C	D
5	FFPJC0192	Adjust Plate, Optics		1	C	D
6	FFPJC0193	Adjust Plate, Optics		1	C	D
7	FFPXK33900	Sub Reflector		1	C	D
8	FFPXK15900	Thermostat	⚠	1	C	D
9	FFPGC0157	Main Reflector		1	C	D
10	FFPKD0781	Lamp Bracket, Front		1	C	D
11	FFPKD07831	Lamp Terminal, Front		1	C	D
12	JK16V025WF67	Exposure Lamp	⚠	1	C	A
12	E16V025WN2A	Exposure Lamp (or)	⚠	1	C	A
13	FFPLQ0267	Spring, No.1 Mirror		2	C	B
14	FFPKB06852	Lamp Frame		1	C	D
15	FFPMA0510	Guide Roller		1	N	B
16	FFPGC0153	No.1 Mirror		1	C	D
17	FFPKU0116	Support Plate, Carriage		1	C	D
18	FFPWC1202	LP Harness	⚠	1	C	D
19	FFPKD0785	Bushing Support		2	C	D
20	FFPMQ0357	Bushing		2	C	B
21	FFPKF0943	Harness Guide 2		1	C	D
22	FFPKF0944	Harness Guide 3		1	C	D
23	FFPMW00451	Drive Cable		1	C	B
24	FFPKF0942	Harness Guide 1		1	C	D
25	FFPKD0992	Round-edge Holder		1	C	D
26	FFPKD07842	Lamp Terminal		1	C	D
27	FFPWC1244	LP Harness 2		1	C	D
28	FFPKD07822	Lamp Bracket, Rear		1	C	D
29	XSB4+8	Screw (M4x8)		2	C	D
30	XTB3+6F	Screw (M3x6)		14	C	D
31	XTB3+6FFZ	Screw (M3x6)		4	C	D
32	XTB3+8G	Screw (M3x8)		1	C	D
33	XTB3+10F	Screw (M3x10)		1	C	D
34	XXE3D8FP	Set Screw		1	C	D
35	XYN3+A8-B	Screw (M3x8)		3	C	D
36	FFPPJ0141	Insulation Sheet		1	C	D
37	FFPFA0135	Shoulder Screw		1	N	D



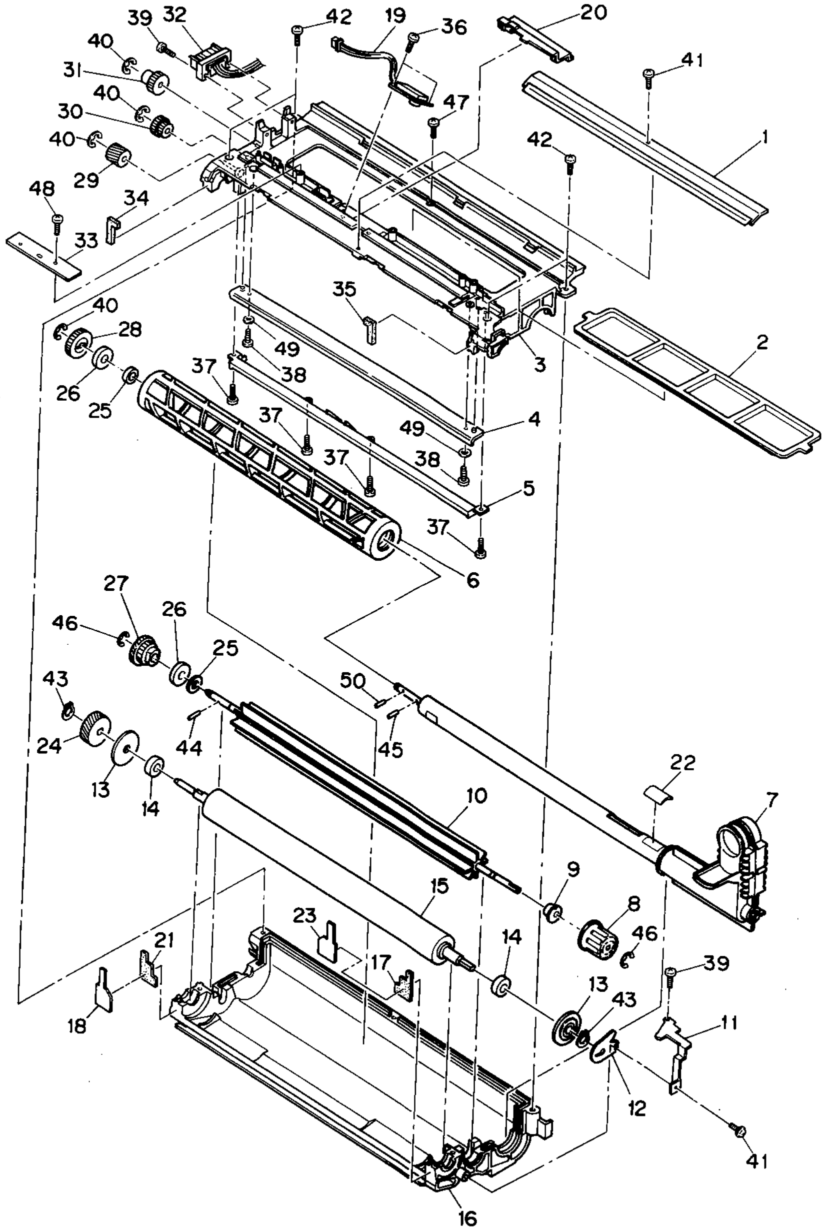
Optics, Half Speed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXK129002	Pulley Bracket	1	C	D
2	FFPKD0785	Bushing Support	2	C	D
3	FFPMQ0357	Bushing	2	C	B
4	FFPKP0048	Cleaning Felt	1	C	B
5	FFPKB06992	Frame, Half Speed Unit	1	C	D
6	FFPKR13931	Support, Guide Roller	1	C	D
7	FFPMA0510	Guide Roller	1	N	B
8	FFPGC0159	No.2/3 Mirror	2	C	D
9	FFPLQ0278	Mirror Support	2	C	B
10	FFPKP0059	Felt	1	C	B
11	FFPMB01751	Harness Guide	1	C	D
12	FFPKN0282	Sheet, Mirror Support	2	C	D
13	XXE3D8FP	Set Screw	1	C	D
14	XTB3+6F	Screw (M3x6)	4	C	D
15	XTB3+6FFZ	Screw (M3x6)	2	C	D
16	XYN3+F6	Screw (M3x6)	1	C	D
17	FFPFA0135	Shoulder Screw	1	N	D



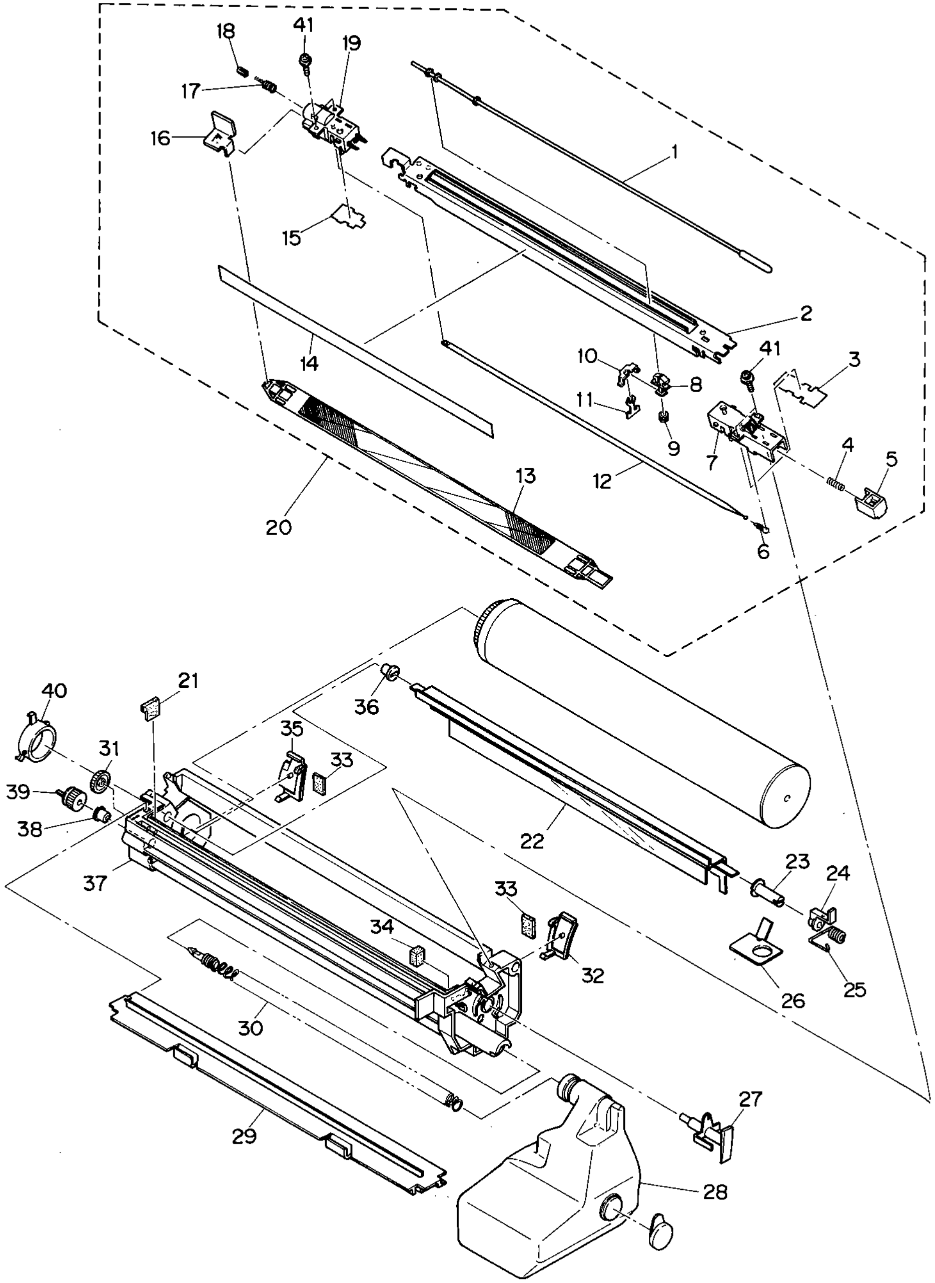
Hopper Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com- mon	Rank
1	XWG3	Washer	1	C	D
2	FFPLL0403	Slide Lever	1	C	D
3	FFPLP0734	Hook Spring	1	C	B
4	FFPLP0735	Tension Spring	1	C	B
5	FFPKQ00733	Slide Bracket, Hopper	1	C	D
6	FFPLG09411	Slide Pin	2	C	D
7	FFPHK0672	Bottle Support	1	C	D
8	FFPTE1668	Label, CDI	1	C	D
9	FFPKF0938	Stopper	1	C	D
10	TS15A20-09	Toner Sensor	1	C	B
11	FFPMF0696	Gear 1, Hopper Sensor	1	C	C
12	FFPKF0937	Washer	1	C	D
13	FFPHP06342	Seal	1	C	B
14	FFPKS0664	Hopper Shutter	1	C	D
15	FFPLP0733	Shutter Spring	1	C	B
16	FFPKE07671	Gear Cover	1	C	D
17	D125J60-36	Bottle Motor	1	C	C
18	FFPXH02950	Bracket, Motor Mounting	1	C	D
19	FFPMF06951	Motor Gear	1	C	C
20	GP1A71A1	Sensor, Bottle Position	1	C	B
21	FFPMF0698	Hopper Gear	1	C	C
22	FFPFJ0033	Snap Ring	1	C	D
23	FFPMF0798	Idle Gear	1	C	C
24	FFPMF06971	Hopper Gear	1	C	C
25	FFPMF0699	Shaft Gear 2, Sensor	1	C	C
26	FFPXH10D11	Hopper Unit Ass'y	1	N	D
27	XTB3+8G	Screw (M3x8)	5	C	D
28	XTB3+6F	Screw (M3x6)	2	C	D
29	XUC5VM	E Ring	1	C	D
30	LWS1S	Locking Wire Saddle	1	C	D



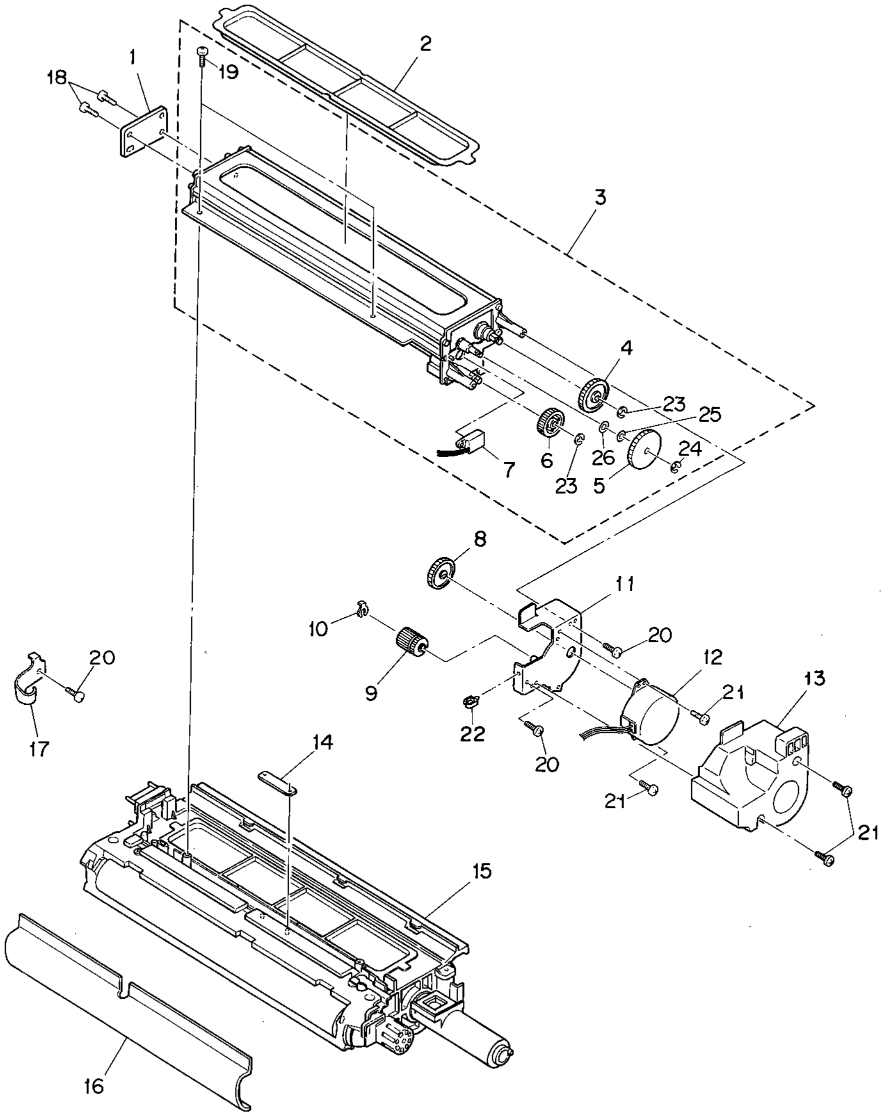
Developer Unit, Black

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0938	Plate, Toner Dispersion	1	C	D
2	FFPQF0031	Frame Lid, Developer	1	C	D
3	FFPQA0127	Upper Frame, Developer	1	C	D
4	FFPHK06354	Doctor Blade	1	C	D
5	FFPKM02551	Separator	1	C	D
6	FFPXG03C21	Toner Feeder	1	C	D
7	FFPXG04C21	Pipe, Toner Supply	1	C	D
8	FFPLA00881	Knob, Stirring Paddle	1	C	D
9	FFPMQ0483	Bushing, Developer	1	C	C
10	FFPHH00712	Stirring Paddle	1	C	B
11	FFPDF0226	Bias Lead (3), Developer	1	C	D
12	FFPKD0760	Support, Magnetic Pole	1	C	C
13	FFPHQ00311	Spacer Ring (FFPHQ0042, for Production)	2	C	D
14	FFPMQ0366	Bearing	2	C	A
15	FFPDN0022	Magnetic Roller	1	C	B
16	FFPQA0875	Developer Frame, Lower	1	C	D
17	FFPHP06732	Side Seal, Developer	1	C	D
18	FFPKN02891	Side Seal, Rear	1	C	A
19	TS0524LA-15	Sensor, Toner Density	1	C	A
20	FFPKE0937	Cover,TD Sensor	1	C	B
21	FFPHP06562	Side Seal, Developer	1	C	D
22	FFPMQ0445	Slider	1	C	A
23	FFPKN02901	Side Seal, Front	1	C	D
24	FFPMF0686	Gear, Magnetic Roller	1	C	A
25	FFPHP0553	Seal	2	C	C
26	FFPMQ0273	Bearing (FFPMQ0504, for Production)	2	C	D
27	FFPMF0889	Gear, Stirring Paddle	1	C	B
28	FFPMF0893	Gear, Toner Feed	1	C	C
29	FFPMF0688	Idle Gear 1	1	C	C
30	FFPMF0891	Idle Gear 2	1	C	C
31	FFPMF0892	Idle Gear 3	1	C	C
32	FFPWC1222	BG Harness	1	C	C
33	FFPKE0939	Harness Cover	1	C	D
34	FFPHP0696	Side Seal L	1	C	D
35	FFPHP0697	Side Seal R	1	C	A
36	XSB3+4BN	Screw (M3x4)	2	C	A
37	XTB3+10G	Screw (M3x10)	4	C	D
38	XSB4+6BN	Screw (M4x6)	2	C	D
39	XTB3+10G	Screw (M3x10)	4	C	D
40	XUC5VM	E Ring	4	C	D
41	XYN3+F6	Screw (M3x6)	2	C	D
42	XYN4+F16	Screw (M4x16)	4	C	D
43	XUB10VM	C Ring	2	C	D
44	XPJ2D10WV	Pin	1	C	D
45	XPL2A12WV	Spring Pin	1	C	D
46	XUC4VM	E Ring	1	C	D
47	XTB4+10G	Screw (M4x10)	1	C	D
48	XTB3+6G	Screw (M3x6)	1	C	D
49	XWE4BN	Washer	2	C	D
50	XPJ2D12WV	Pin	1	C	D



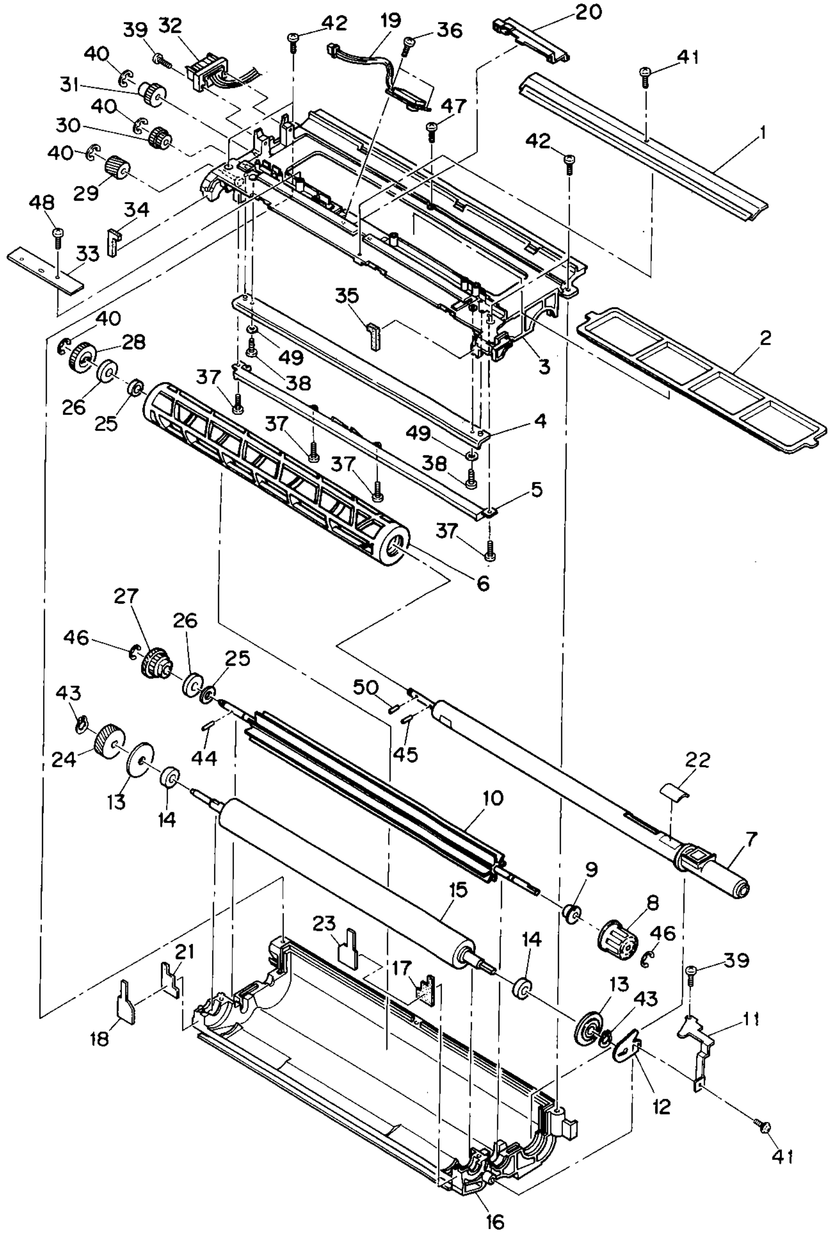
Drum Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPLG1226	Cleaning Shaft	1	C	D
2	FFPKE07652	Corona Case	1	C	D
3	FFPJA0228	Corona Lid, Front	1	C	A
4	FFPLP0722	Tension Spring, Grid	1	C	B
5	FFPKQ00691	Grid Base	1	C	A
6	FFPLP07671	Tension Spring 2	1	C	A
7	FFPJA02383	Corona Block, Front	1	C	A
8	FFPKQ0070	Cleaning Base B, Cable	1	C	B
9	FFPXG59950	Base C Ass'y, Cable Cleaning	1	C	B
10	FFPXG56950	Base A Ass'y, Cable Cleaning	1	C	B
11	FFPHK06501	Grid Cleaner	1	C	B
12	FFPEY0052	Corona Wire 2	1	C	A
13	FFPKS06751	Corona Grid	1	C	C
14	FFPJC01881	Shield Cover, Corona	1	C	C
15	FFPJA0229	Corona Lid, Rear	1	C	A
16	FFPDF02081	Grid Lead	1	C	A
17	FFPLP0769	Spring, Socket	1	C	B
18	FFPDA00264	Socket	1	C	A
19	FFPJA02301	Corona Base, Rear	1	C	A
20	FFPXG60B501	No.1 Corona Ass'y	1	C	B
21	FFPHP0652	Sponge Seal 11	1	C	A
22	FFPHK06331	Cleaning Blade	1	C	A
23	FFPLT01002	Shaft, Front	1	C	D
24	FFPMQ0374	Blade Support	1	C	D
25	FFPLR01961	Spring, Blade Pressure	1	C	B
26	FFPLL04021	Release Lever	1	C	D
27	FFPLG09513	Drum Support, Front	1	C	D
28	FFPQA00882	Toner Bottle, Waste	1	C	A
29	FFPXG639001	Cleaning Cover Ass'y	1	C	D
30	FFPHG0036	Recycle Coil	1	C	D
31	FFPMF0693	Idle Gear, Recycle Coil	1	C	C
32	FFPHP06382	Side Seal, Front	1	C	A
33	FFPHP0650	Sponge Seal 9	2	C	A
34	FFPHP06511	Sponge Seal 10	1	C	A
35	FFPHP06352	Side Seal, Rear	1	C	A
36	FFPLT0099	Blade Shaft, Rear	2	C	D
37	FFPXG50B501	Frame, Drum Unit	1	C	D
38	FFPMQ0280	Bushing	2	C	B
39	FFPMF0692	Gear, Recycle Coil	1	C	C
40	FFPMQ03721	Drum Bushing	1	C	B
41	XYN3+F8	Screw (M3x8)	4	C	D



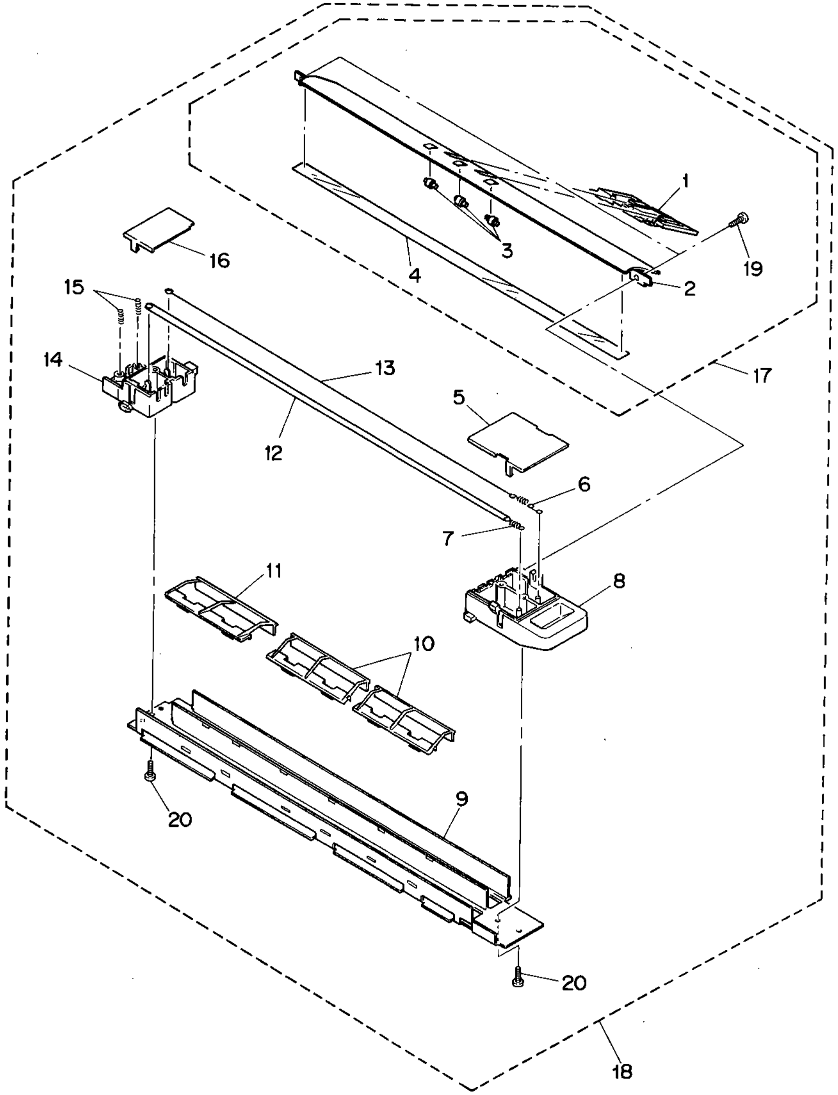
Developer Unit, Color

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWB0494	PCB Color Discrimination	1	C	C
2	FFPQF0031	Frame Lid, Developer	1	C	D
3	FFPVG02900	Color Hopper Unit	1	C	D
4	FFPMF06971	Hopper Gear	1	C	C
5	FFPMF0744	Transfer Gear, Color	1	C	C
6	FFPMF0248	Drive Gear	1	C	C
7	TS15A20-09	Toner Sensor, Remain	1	C	B
8	FFPMF06951	Motor Gear	1	C	C
9	FFPMF0747	Idle Gear, Color	1	C	C
10	FFPFJ0005	Snap Ring	1	C	D
11	FFPKR1454	Motor Bracket	1	C	D
12	D125J60-36	Bottle Motor	1	C	C
13	FFPKE0808	Motor Cover	1	C	D
14	FFPKD0907	Harness Holder	1	C	D
15	FFPVG01C65	Color Developer A'ssy	1	C	D
16	FFPKE08321	Cover, Magnetic Roller	1	C	D
17	FFPDE0044	Ground Terminal	1	C	C
18	XTB3+8G	Screw (M3x8)	4	C	D
19	XYN3+F8	Screw (M3x8)	2	C	D
20	XTB3+6F	Screw (M3x6)	3	C	D
21	XTN3+6F	Screw (M3x6)	4	C	D
22	UAMS05S2	Clamp	1	C	D
23	XUC4VM	E Ring	2	C	D
24	XUC2VM	E Ring	1	C	D
25	FFPMV0018	Polyslider	2	C	D
26	FFPMV0002	Polyslider	1	C	D



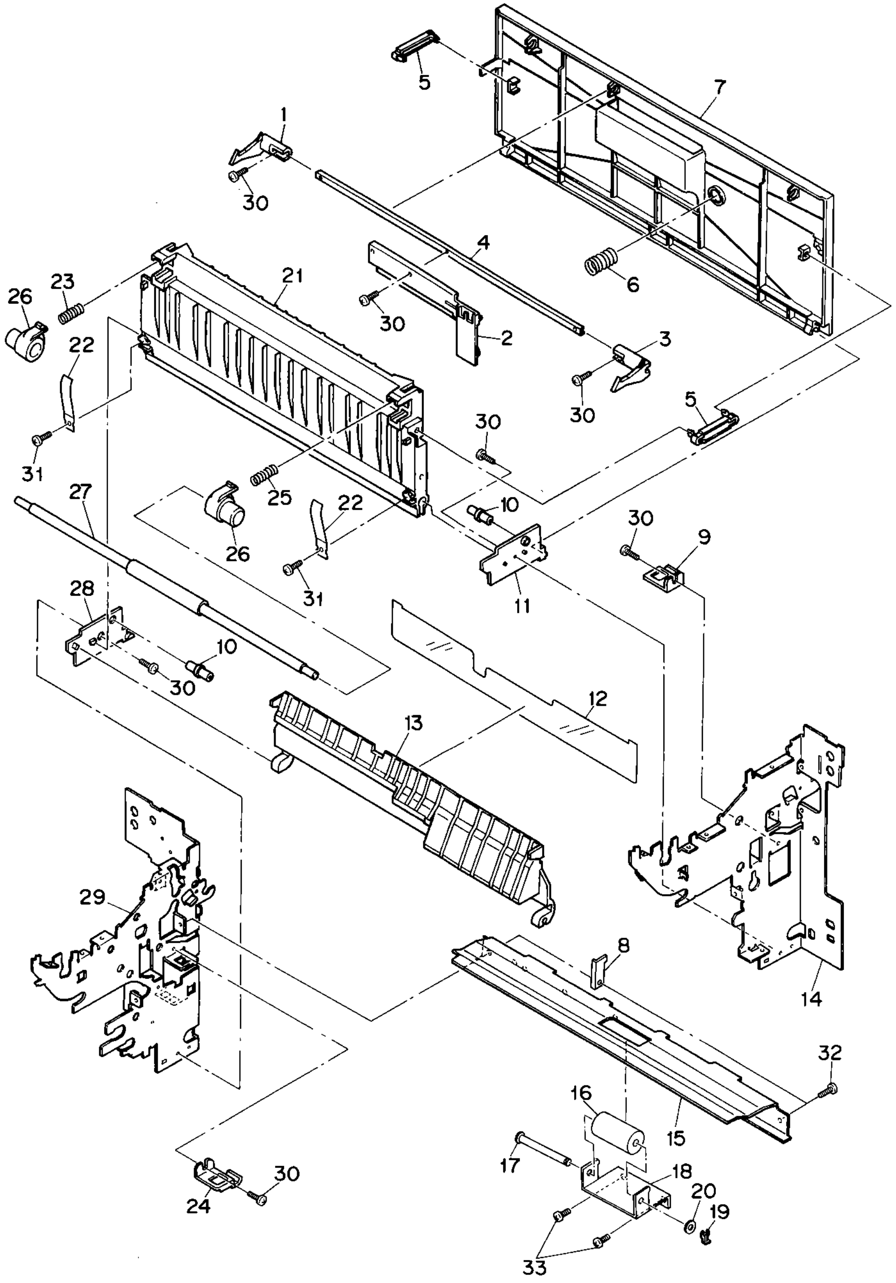
Developer Unit, Color

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0938	Plate, Toner Dispersion	1	C	D
2	FFPQF0031	Frame Lid, Developer	1	C	D
3	FFPQA0127	Upper Frame, Developer	1	C	D
4	FFPHK06354	Doctor Blade	1	C	D
5	FFPKM02551	Separator	1	C	D
6	FFPXG03C21	Toner Feeder	1	C	D
7	FFPXG10C65	Pipe, Toner Supply	1	C	D
8	FFPLA00881	Knob, Stirring Paddle	1	C	C
9	FFPMQ0483	Bushing, Developer	1	C	B
10	FFPHH00712	Stirring Paddle	1	C	D
11	FFPDF0226	Bias Lead (3), Developer	1	C	C
12	FFPKD0760	Support, Magnetic Pole	1	C	D
13	FFPHQ00311	Spacer Ring (FFPHQ0042, for Production)	2	C	A
14	FFPMQ0366	Bearing	2	C	B
15	FFPDN0022	Magnetic Roller	1	C	D
16	FFPQA0876	Developer Frame, Lower	1	C	D
17	FFPHP06732	Side Seal, Developer	1	C	A
18	FFPKN02891	Side Seal, Rear	1	C	A
19	TS0524LA-15	Sensor, Toner Density	1	C	B
20	FFPKE0937	Cover, TD Sensor	1	C	D
21	FFPHP06562	Side Seal, Developer	1	C	A
22	FFPMQ0445	Slider	1	C	D
23	FFPKN02901	Side Seal, Front	1	C	A
24	FFPMF0686	Gear, Magnetic Roller	1	C	C
25	FFPHP05531	Seal	1	C	D
26	FFPMQ0273	Bearing (FFPMQ0504, for Production)	2	C	B
27	FFPMF0889	Gear, Stirring Paddle	1	C	C
28	FFPMF0893	Gear, Toner Feed	1	C	C
29	FFPMF0688	Idle Gear 1	1	C	C
30	FFPMF0891	Idle gear 2	1	C	C
31	FFPMF0892	Idle gear 3	1	C	C
32	FFPWC1222	BG Harness	1	C	D
33	FFPKE0939	Harness Cover	1	C	D
34	FFPHP0696	Side Seal L	1	C	A
35	FFPHP0697	Side Seal R	1	C	A
36	XSB3+4BN	Screw (M3x4)	2	C	D
37	XTB3+10G	Screw (M3x10)	4	C	D
38	XSB4+6BN	Screw (M4x6)	2	C	D
39	XTB3+10G	Screw (M3x10)	3	C	D
40	XUC5VM	E Ring	4	C	D
41	XYN3+F6	Screw (M3x6)	2	C	D
42	XYN4+F16	Screw (M4x16)	4	C	D
43	XUB10VM	C Ring	2	C	D
44	XPJ2D10WV	Pin	1	C	D
45	XPL2A12WV	Spring Pin	1	C	D
46	XUC4VM	E Ring	2	C	D
47	XTB4+10G	Screw (M4x10)	1	C	D
48	XTB3+6G	Screw (M3x6)	1	C	D
49	XWE4BN	Washer	2	C	D
50	XPJ2D12WV	Pin	1	C	D



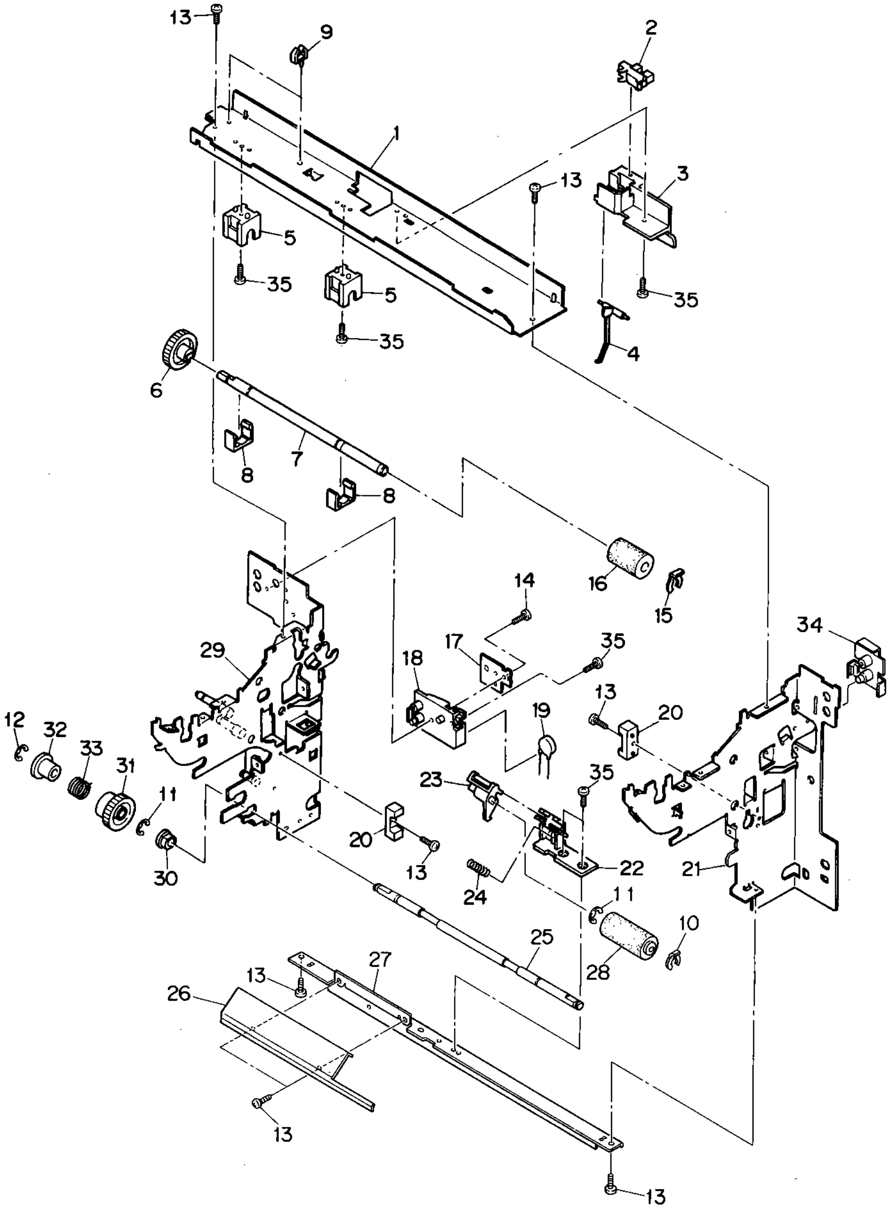
Corona No.2

Ref. No.	Part No.	Description	Q'ty Per Unit	Com- mon	Rank
1	FFPKD1045	Roller Support	1	C	D
2	FFPKF1053	Transfer Guide	1	C	D
3	FFPMA0421	Roller	3	C	B
4	FFPHK0642	Mylar Sheet	1	C	B
5	FFPJA02332	Corona Cover, Front	1	C	A
6	FFPLP07661	Tension Spring 1	1	C	A
7	FFPLP07671	Tension Spring 2	1	C	A
8	FFPJA02326	Corona Block, Front	1	C	A
9	FFPKQ01092	Frame, No.2 Corona	1	C	D
10	FFPLK02232	Separation Finger L	2	C	A
11	FFPLK02242	Separation Finger R	1	C	A
12	FFPEY0052	Corona Wire 2	1	C	A
13	FFPEY0051	Corona Wire 1	1	C	A
14	FFPJA02346	Corona Block, Rear	1	C	A
15	FFPLP0765	Spring	2	C	B
16	FFPJA02361	Corona Cover, Rear	1	C	A
17	FFPXL02950	Transfer Guide Ass'y	1	C	C
18	FFPVL01A421	No.2 Corona Ass'y	1	C	A
19	XYN3+F6	Screw (M3x6)	2	C	D
20	XTB4+10G	Screw (M4x10)	2	C	D



Paper Feed Unit

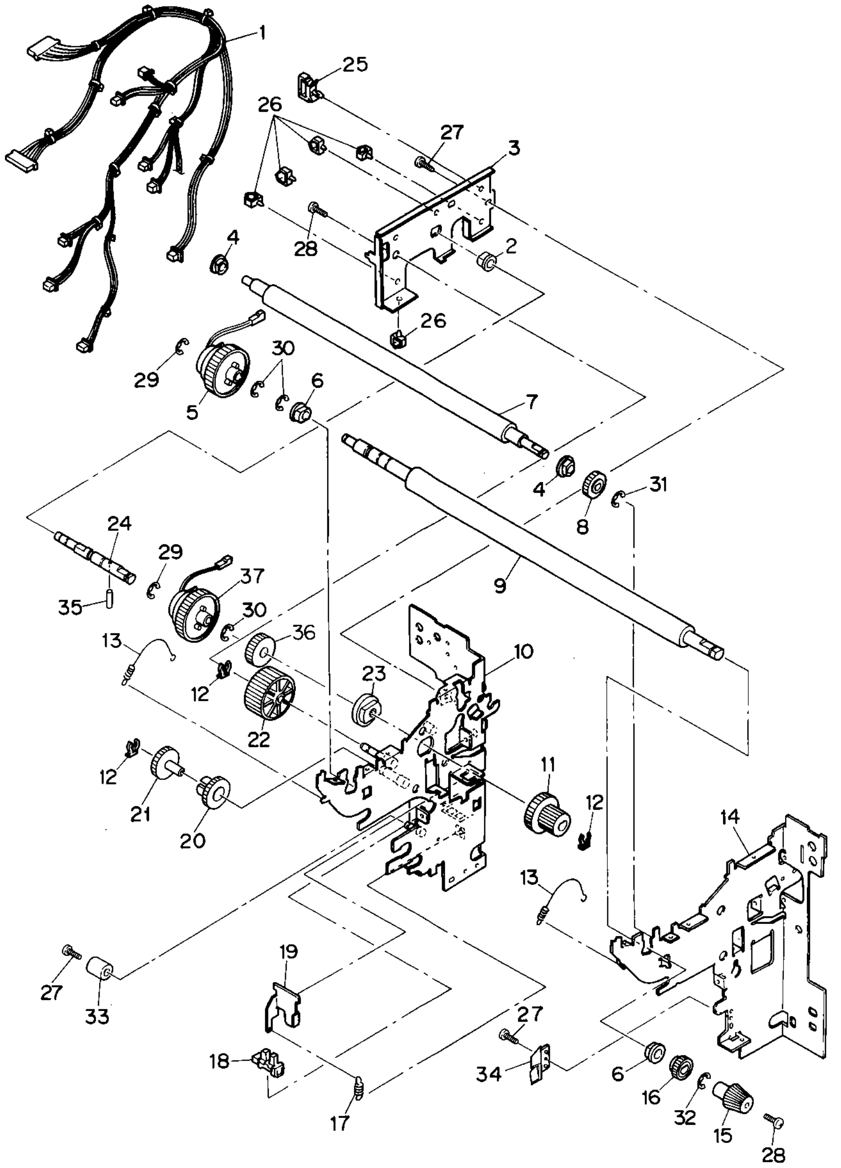
Ref. No.	Part No.	Description	Q'ty Per Unit	Common	Rank
1	FFPLL0500	Lever 2	1	C	D
2	FFPLL04143	Lever	1	C	D
3	FFPLL0499	Lever 1	1	C	D
4	FFPKD1126	Lever Shaft	1	C	D
5	FFPLK0232	Connecting Arm	2	C	D
6	FFPLP0851	Lever Spring	1	C	C
7	FFPKE078211	Cover, Paper Feed	1	C	D
8	FFPKE0954	Cover, Gear	1	C	D
9	FFPKF1112	Lever Guide F	1	C	D
10	FFPKF09861	Hinge Stopper	2	C	D
11	FFPKQ0119	Hinge Block 1	1	C	D
12	FFPHK07941	Guide Mylar	1	C	C
13	FFPXA67B501	Paper Guide 2	1	C	D
14	FFPKB0805	Front Frame, Paper Feed	1	C	D
15	FFPKF11174	Bypass Guide	1	C	D
16	FFPMA0511	Roller	1	N	A
17	FFPLG1370	Shaft	1	N	D
18	FFPLQ0374	Spring	1	N	D
19	FFPFJ0033	Snap Ring	1	C	D
20	XWG6	Washer	1	C	D
21	FFPKF09643	Paper Guide 3	1	C	D
22	FFPLQ03191	Spring	2	C	B
23	LP08852	Tension Spring	1	C	B
24	FFPKF1129	Lever Guide R	1	C	D
25	FFPLP08862	Tension Spring	1	C	B
26	FFPKD08353	Bushing	2	C	D
27	FFPLG12411	Transport Roller	1	C	B
28	FFPKQ0120	Hinge Block 2	1	C	D
29	FFPXQ72D10	Rear Frame, Paper Feed	1	C	D
30	XTB3+8F	Screw (M3x8)	7	C	D
31	XTB3+8G	Screw (M3x8)	2	C	D
32	XTB4+8F	Screw (M4x8)	2	C	D
33	XTB3+6F	Screw (M3x6)	2	C	D



Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD11361	Roller Support, Paper Feed	1	C	D
2	GP1A71A1	Sensor	1	C	C
3	FFPKQ0118	Sensor Bracket	1	C	D
4	FFPLL04253	Sensor Lever	1	C	D
5	FFPMQ0448	Shaft Support, Paper Feed	2	C	D
6	FFPMF0729	Gear, 24T	1	C	C
7	FFPLG1371	Roller Shaft, Paper Feed	1	N	D
8	FFPKD0852	Support, Roller Shaft	2	C	D
9	UAMS05S2	Clamp	2	C	D
10	FFPFJ0033	Snap Ring	1	C	D
11	XUC5VM	E Ring	2	C	D
12	XUC4VM	E Ring	1	C	D
13	XTB4+8F	Screw (M4x8)	8	C	D
14	XTB3+8G	Screw (M3x8)	1	C	D
15	FFPFJ0039	Snap Ring	1	C	D
16	FFPMA0512	Roller, Pick up	1	N	A
17	FFPDF0243	Ground Plate	1	C	D
18	FFPKH0265	Spacer, Insulation	1	C	D
19	ERZC10DK781	ZNR ⚠	1	C	D
20	FFPKF1120	Support	2	C	D
21	FFPKB0805	Front Frame, Paper Feed	1	C	D
22	FFPKD10361	Support	1	C	D
23	FFPLL0468	DFP Arm	1	C	D
24	FFPLP08161	Pressure Spring	1	C	B
25	FFPLG1248	DFP Shaft	1	C	D
26	FFPXQ75B401	Paper Guide	1	C	D
27	FFPKS08911	Stay, Reinforcement	1	C	D
28	FFPMA0420	DFP Roller	1	C	A
29	FFPXQ72D10	Rear Frame, Paper Feed	1	C	D
30	FFPMQ0166	Bushing	1	C	D
31	FFPMF0792	Drive Gear	1	C	C
32	FFPLU00251	Boss	1	C	D
33	FFPLR0217	Spring Clutch	1	C	B
34	FFPKH0264	Spacer, Insulation	1	C	D
35	XTB3+8F	Screw (M3x8)	6	C	D

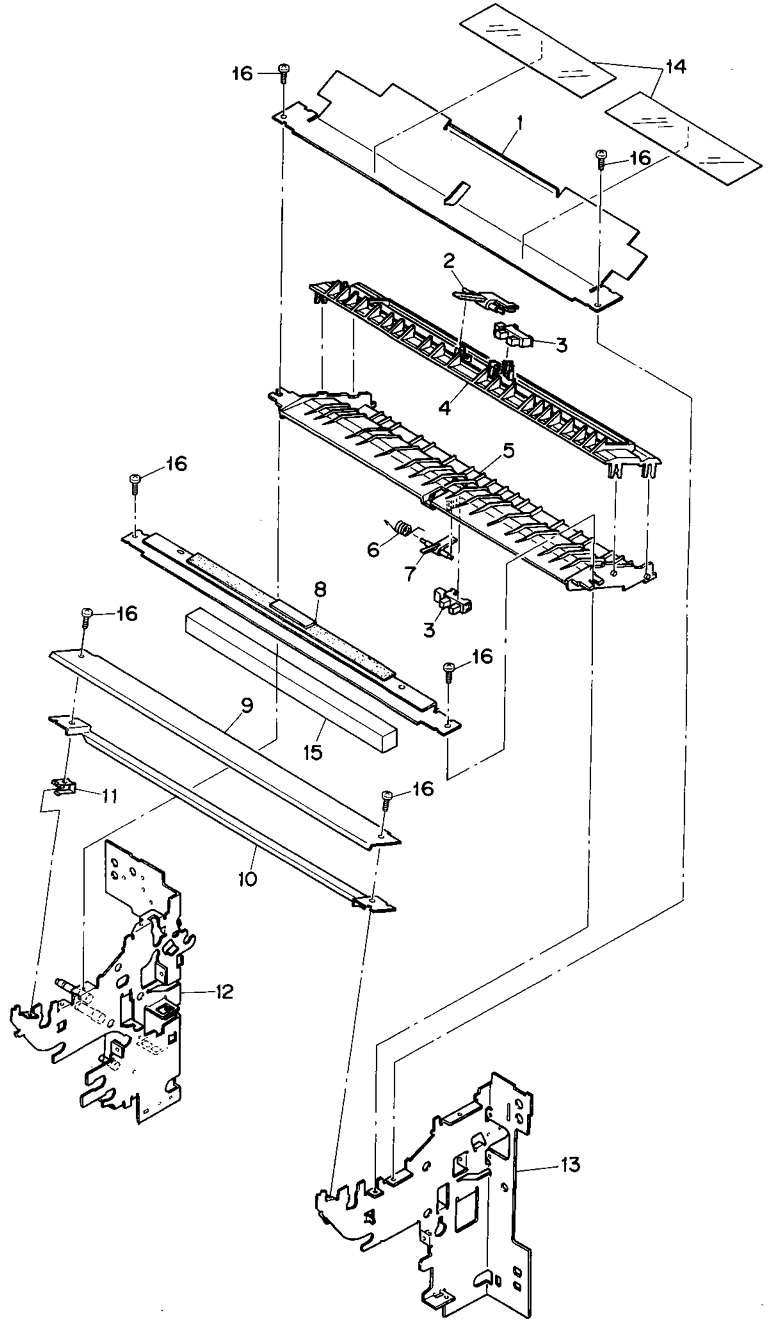
Paper Feed Section



Paper Feed Unit

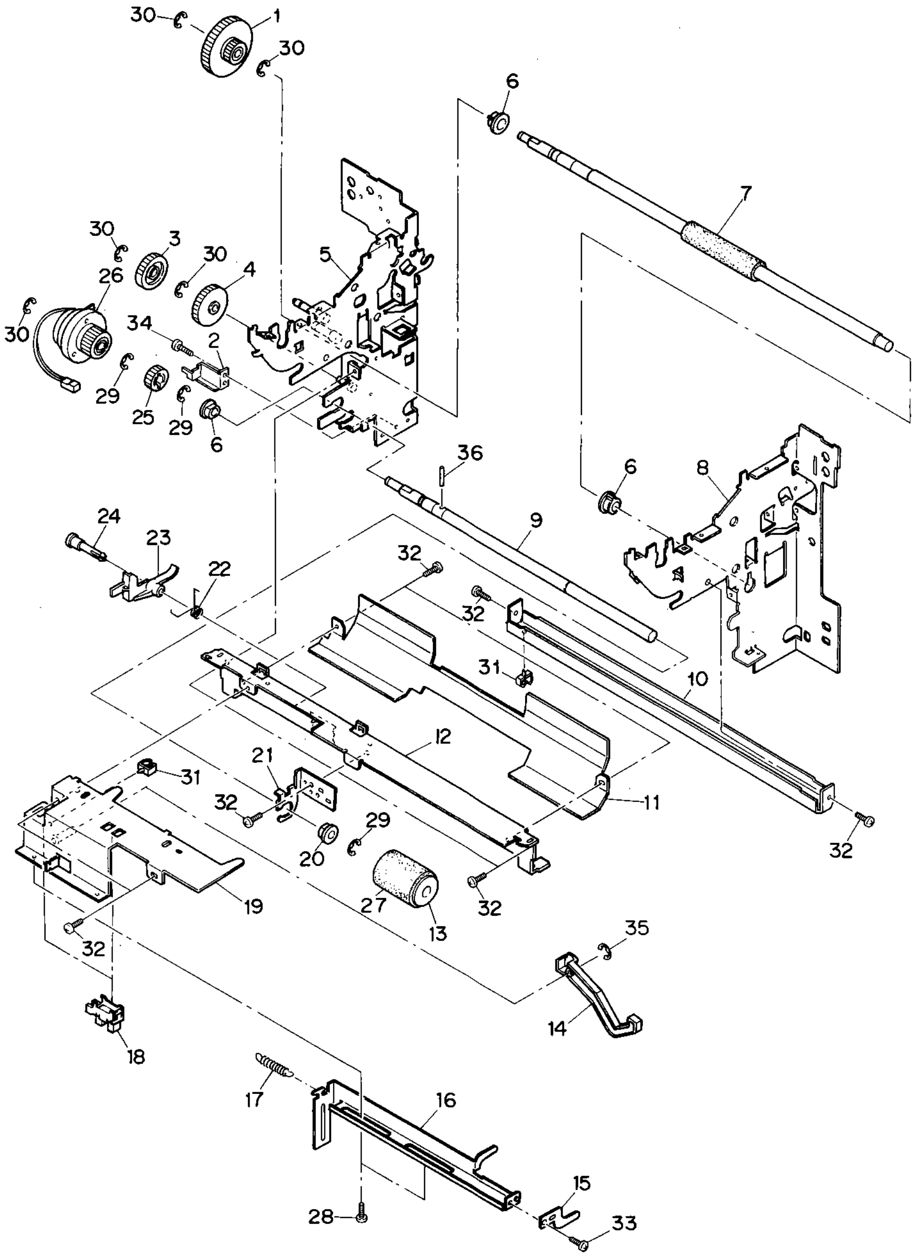
Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1524	RB Harness	1	N	D
2	FFPMQ03961	Bushing	1	C	B
3	FFPKS08901	Sub Plate	1	C	D
4	FFPMQ0094	Bushing	2	C	D
5	FFPXQ43B43	Magnet Clutch	1	C	A
6	FFPMQ0093	Bushing	2	C	B
7	FFPMA0444	Timing Roller, Idle	1	C	C
8	FFPMF0724	Gear, Timing Roller	1	C	C
9	FFPMA0443	Timing Roller, Drive	1	C	D
10	FFPXQ72D10	Rear Frame	1	C	D
11	FFPMF07281	Gear, 32/16T	1	C	C
12	FFPFJ0039	Snap Ring	3	C	D
13	FFPLP07561	Tension Spring	2	C	B
14	FFPKB0805	Front Frame	1	C	D
15	FFPLA00812	Knob, Paper Feed	1	C	C
16	FFPMF0725	Gear, Timing Roller	1	C	C
17	FFPLP0119	Tension Spring	1	C	B
18	GP1A71A1	Sensor	1	C	C
19	FFPLL0504	Actuator	1	C	D
20	FFPMF0926	Idle Gear	1	N	C
21	FFPMF0927	Idle Gear	1	N	D
22	FFPMF0726	Idle Gear, 46T	1	C	C
23	FFPMQ03941	Bushing	1	C	B
24	FFPLG1372	Clutch Shaft	1	N	D
25	LWS1S	Locking Wire Saddle	1	C	D
26	UAMS05S2	Clamp	5	C	D
27	XTB3+8F	Screw (M3x8)	3	C	D
28	XYN3+F8	Screw (M3x8)	2	C	D
29	XUC5VM	E Ring	2	C	D
30	XUC7VM	E Ring	3	C	D
31	XUC4VM	E Ring	1	C	D
32	XUC6VM	E Ring	1	C	D
33	FFPKH0273	Spacer	1	C	D
34	FFPKF1170	Guide Plate	1	C	D
35	XPJ2D14WV	Pin	1	C	D
36	FFPMF0925	Gear	1	N	C
37	FFPXQ89D10	Magnet Clutch	1	N	A

Paper Feed Section



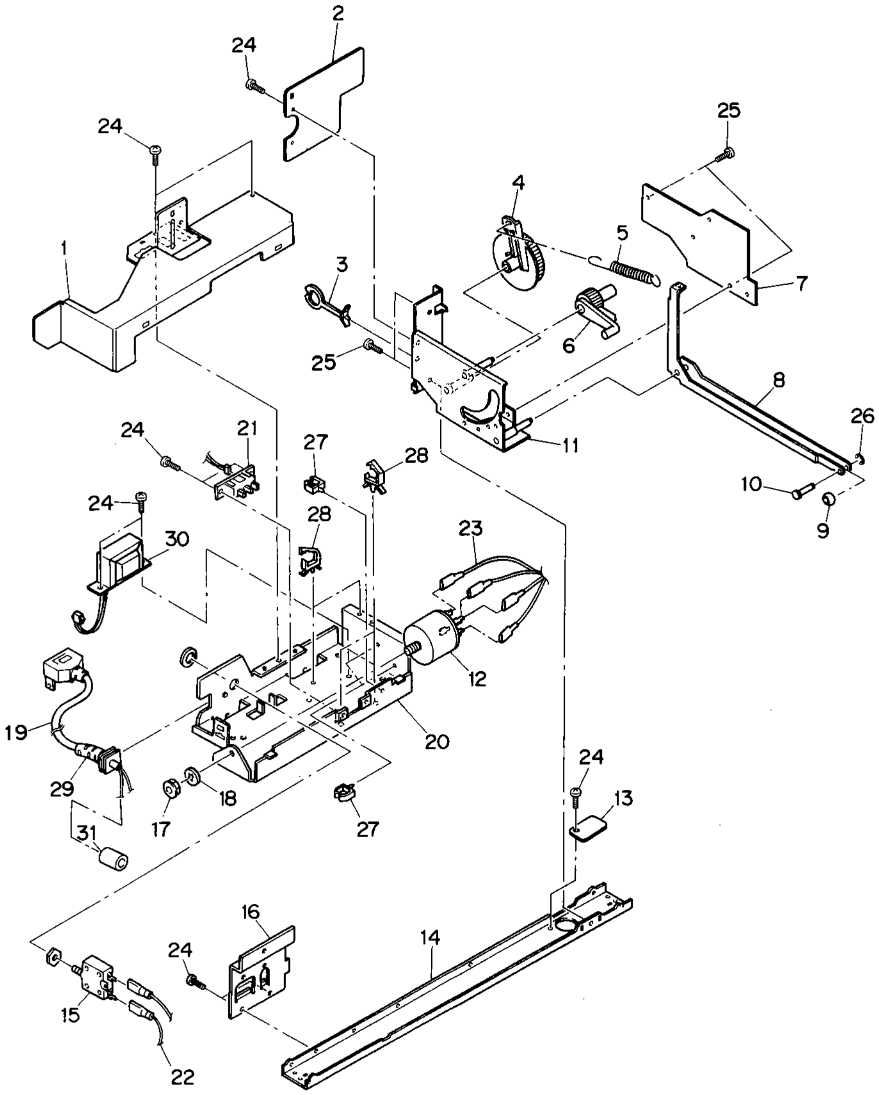
Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXQ87B50	Paper Guide 1	1	C	D
2	FFPLL04932	Sensor Lever	1	C	D
3	GP1A71A1	Sensor	2	C	C
4	FFPKF11151	Paper Guide C	1	C	D
5	FFPKF1118	Paper Guide B	1	C	D
6	FFPLR0199	Release Spring	1	C	B
7	FFPLL04241	Sensor Lever	1	C	D
8	FFPXQ83B50	Paper Guide Ass'y	1	C	D
9	FFPKF1113	Upper Guide	1	C	D
10	FFPKF1114	Guide Plate, Registration	1	C	D
11	FFPDF0244	Ground Plate	1	C	D
12	FFPXQ72D10	Rear Frame	1	C	D
13	FFPKB0805	Front Frame	1	C	D
14	FFPHK0826	Guide Mylar	2	C	B
15	FFPHP0680	Toner Seal	1	C	B
16	XTB4+8F	Screw (M4x8)	6	C	D



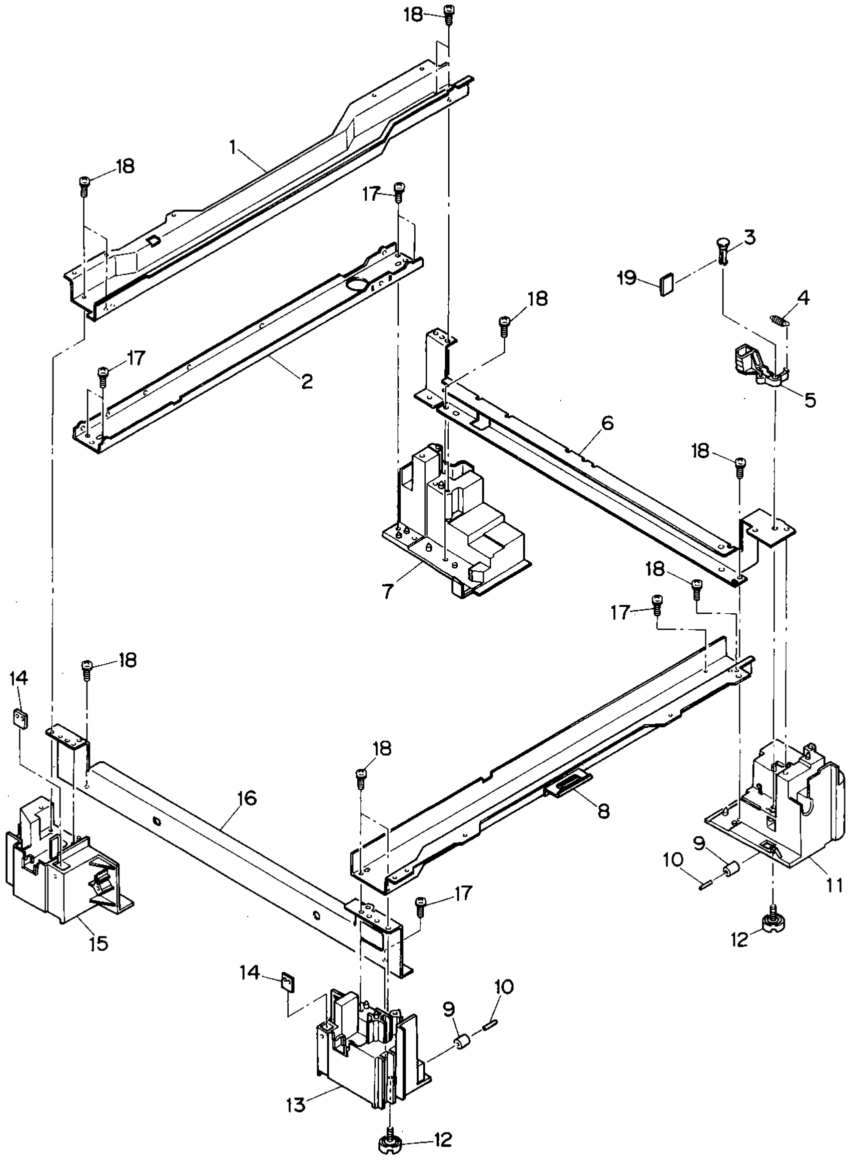
Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPMF0923	Gear	1	C	C
2	FFPKF1208	Clutch Support	1	N	D
3	FFPMF0796	Idle Gear	1	C	C
4	FFPMF0791	Idle Gear	1	C	C
5	FFPXQ72D10	Rear Frame	1	C	D
6	FFPMQ0451	Bushing	3	C	B
7	FFPMA04453	Middle Roller	1	C	B
8	FFPKB0805	Front Frame	1	C	D
9	FFPLG1429	Roller Shaft	1	C	D
10	FFPKD1166	Stay, Reinforcement	1	C	D
11	FFPKF11191	Paper Guide	1	C	D
12	FFPKD1119	Roller Stay	1	C	D
13	FFPMA03951	Roller, Paper Feed W/No. 27	1	C	B
14	FFPLL0495	Sensor Lever	1	C	D
15	FFPKE08781	Roller Holder	1	C	D
16	FFPKD11201	Slider	1	C	D
17	FFPLP08171	Release Spring	1	C	B
18	GP1A71A1	Sensor	1	C	B
19	FFPXQ81B50	Support Stay	1	C	D
20	FFPMQ0005	Bushing	1	C	B
21	FFPKR1570	Roller Support	1	C	D
22	FFPLR0243	Spring	1	C	B
23	FFPLL05031	Sensor Lever	1	C	D
24	FFPLG1237	Sensor Shaft	1	C	D
25	FFPMF0797	DFP Gear	1	C	C
26	FFPXQ46B43	Magnet Clutch	1	C	A
27	FFPMA0503	Roller, Paper Feed (Rubber only)	1	C	B
28	FFPFA0020	Shoulder Screw	2	C	D
29	XUC7VM	E Ring	3	C	D
30	XUC5VM	E Ring	5	C	D
31	UAMS05S2	Clamp	2	C	D
32	XTB4+8F	Screw (M4x8)	9	C	D
33	XTB3+8F	Screw (M3x8)	1	C	D
34	XTB3+6F	Screw (M3x6)	1	C	D
35	XUC3VM	E Ring	1	C	D
36	XPJ2D10WV	Pin	1	C	D



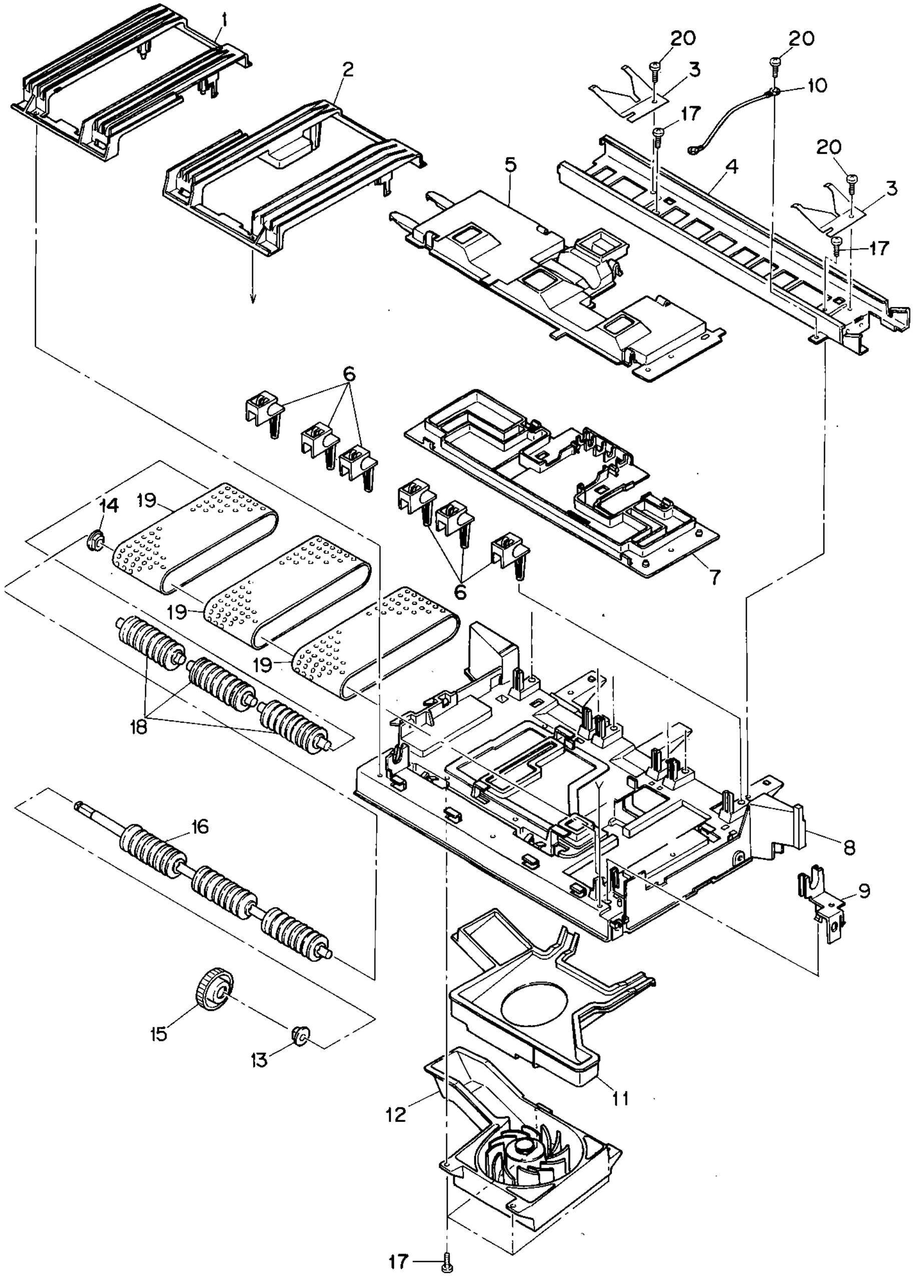
Paper Feed Section

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0885	AC Block Cover	1	C	D
2	FFPKS0904	Harness Cover	1	C	D
3	HL18-0	Harness Lifter	1	C	D
4	FFPMF0827	Lift Gear	1	C	C
5	FFPLP08501	Lift Spring	1	C	B
6	FFPMF08261	Cam/Gear	1	C	C
7	FFPKS0894	Bracket, Rear	1	C	D
8	FFPLL0497	Lift Lever	1	C	D
9	FFPMA0374	Lift Roller	1	C	B
10	FFPLG1007	Shaft, Lift Roller	1	C	D
11	FFPXQ70B50	Bracket, Front	1	C	D
12	VC210FA	Noise Filter ⚠	1	C	D
12	VC210FA12	Noise Filter, For Nordic ⚠	1	C	D
13	FFPKE0798	Cover	1	C	D
14	FFPKD1124	Rear Frame	1	C	D
15	FFPEM0004	Breaker ⚠	1	C	D
16	FFPKS0654	Option Out-let	1	C	D
17	XNG8C	Nut	1	C	D
18	XWC8A	Washer	1	C	D
19	FFPEV0103	Power Cord	1	C	D
19	FFPEV0104	Power Cord, For U.K. ⚠	1	C	D
19	FFPEV0105	Power Cord, For Australia ⚠	1	C	D
20	FFPKD1115	Rear Frame, Lower	1	C	D
21	ESE15403	Sensor	1	C	D
22	FFPWC1286	AB Harness 2 ⚠	1	C	D
23	FFPWC1230	AB Harness 1 ⚠	1	C	D
24	XTB3+6F	Screw (M3x6)	10	C	D
25	XTB4+8F	Screw (M4x8)	4	C	D
26	XUC2VM	E Ring	1	C	D
27	UAMS05S2	Clamp	3	C	D
28	LWS1S	Locking Wire Saddle	4	C	D
29	BR6N4	Cord Bushing ⚠	1	C	D
30	CH48I40	Choke Coil ⚠	1	C	D
31	ESD-R16C	Ferrite Core ⚠	1	C	D



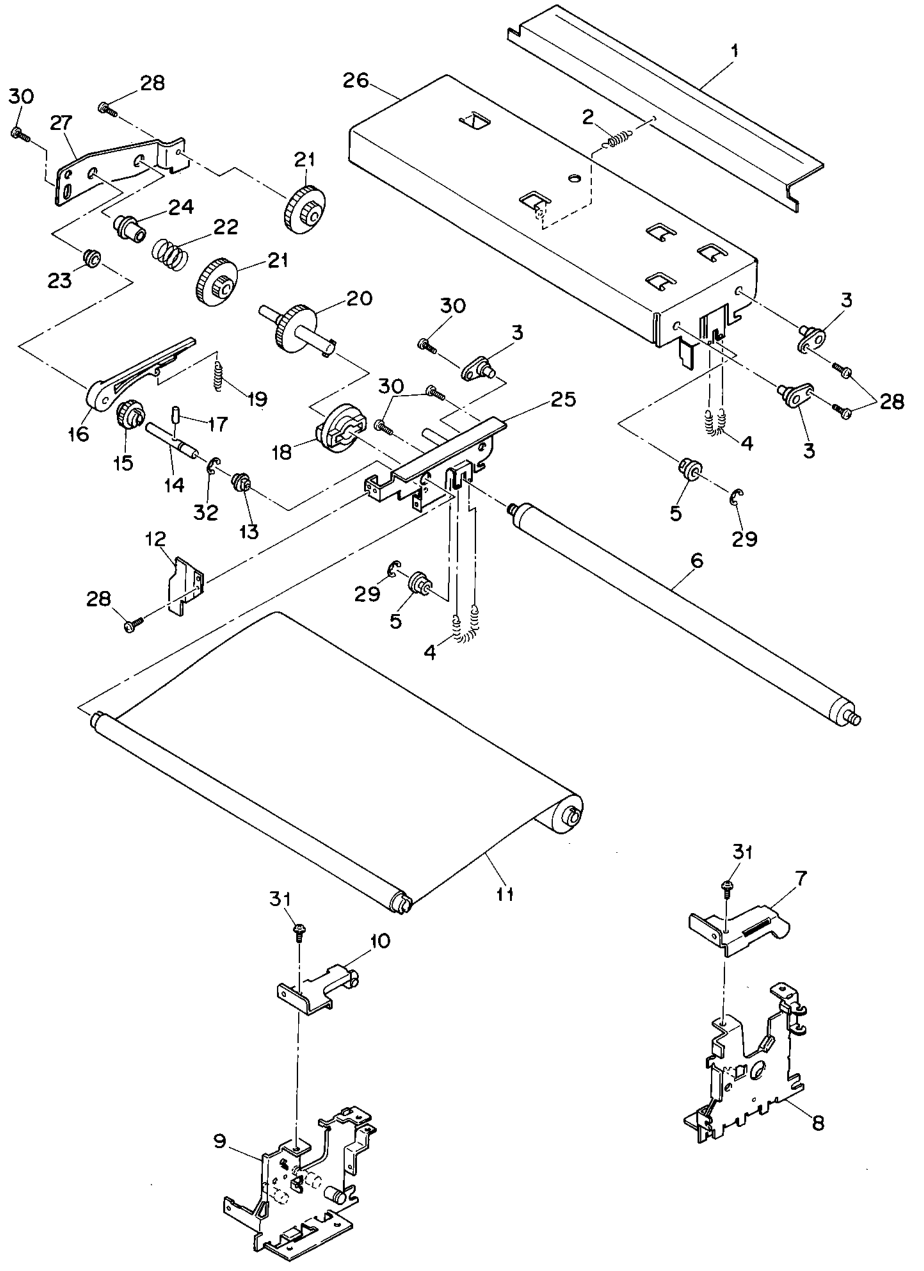
Paper Feed Section

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKF1125	Rear Support, Upper	1	C	D
2	FFPKD1124	Rear Frame, Lower	1	C	D
3	FFPKF1123	Pin	1	C	D
4	FFPLP0849	Spring	1	C	B
5	FFPLL0521	Lever	1	C	D
6	FFPXQ69B50	Right Stay	1	C	D
7	FFPKB08083	Right Frame, Rear	1	C	D
8	FFPKF1124	Front Stay	1	C	D
9	FFPMA0449	Roller	2	C	D
10	FFPFG04351	Pin	2	C	D
11	FFPKB08075	Right Frame, Front	1	C	D
12	FFPNM0027	Foot	2	C	D
13	FFPKB08097	Left Frame, Front	1	C	D
14	FFPKS0892	Cover, Support	2	C	D
15	FFPKB08107	Left Frame, Rear	1	C	D
16	FFPKD1123	Left Stay	1	C	D
17	XTB4+8F	Screw (M4x8)	6	C	D
18	XYN4+C8	Screw (M4x8)	10	C	D
19	FFPKM0276	Spacer	1	C	D



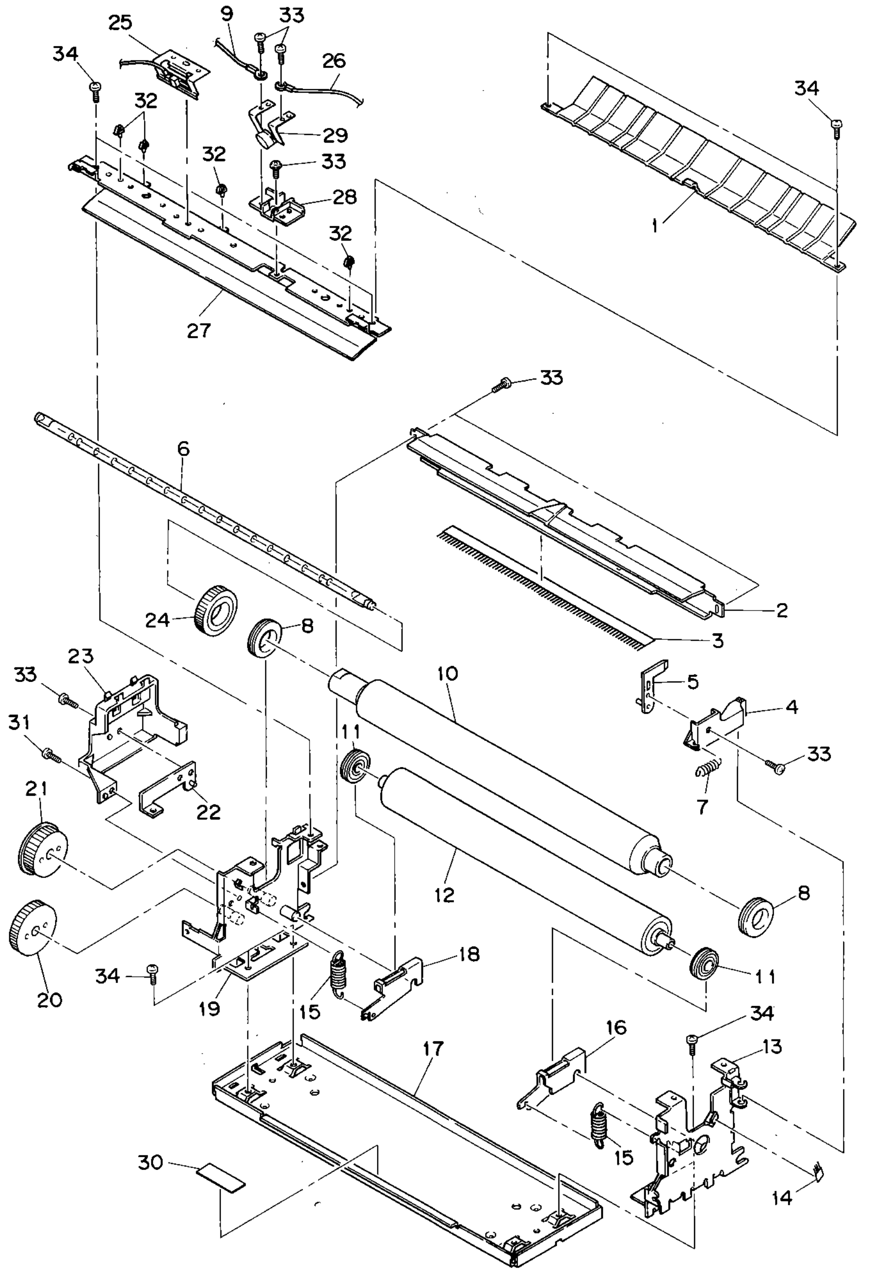
Paper Transport Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD1059	Transport Guide B	1	C	D
2	FFPKD1058	Transport Guide F	1	C	D
3	FFPLQ0270	Spring, Corona	2	C	B
4	FFPKF09471	Corona Rail	1	C	D
5	FFPHA00452	Duct 3	1	C	D
6	FFPMQ0497	Roller Bushing	6	C	D
7	FFPHA00462	Duct 4	1	C	D
8	FFPKB07691	Frame, Paper Transport	1	C	D
9	FFPDF0242	Ground Plate	1	C	D
10	FFPWC1326	HE Harness	1	C	D
11	FFPHA0044	Duct 2	1	C	D
12	CBDM24A4-901	Fan Motor	1	C	C
13	FFPMQ0383	Bushing	1	C	C
14	FFPMQ0005	Bushing	1	C	C
15	FFPMF07991	Gear 1	1	C	C
16	FFPMA03543	Drive Roller	1	C	C
17	XTB4+10G	Screw (M4x10)	6	C	D
18	FFPMA04261	Transfer Roller	3	C	C
19	FFPML0019	Belt, Paper Transport	3	C	C
20	XTB4+8F	Screw (M4x8)	3	C	D



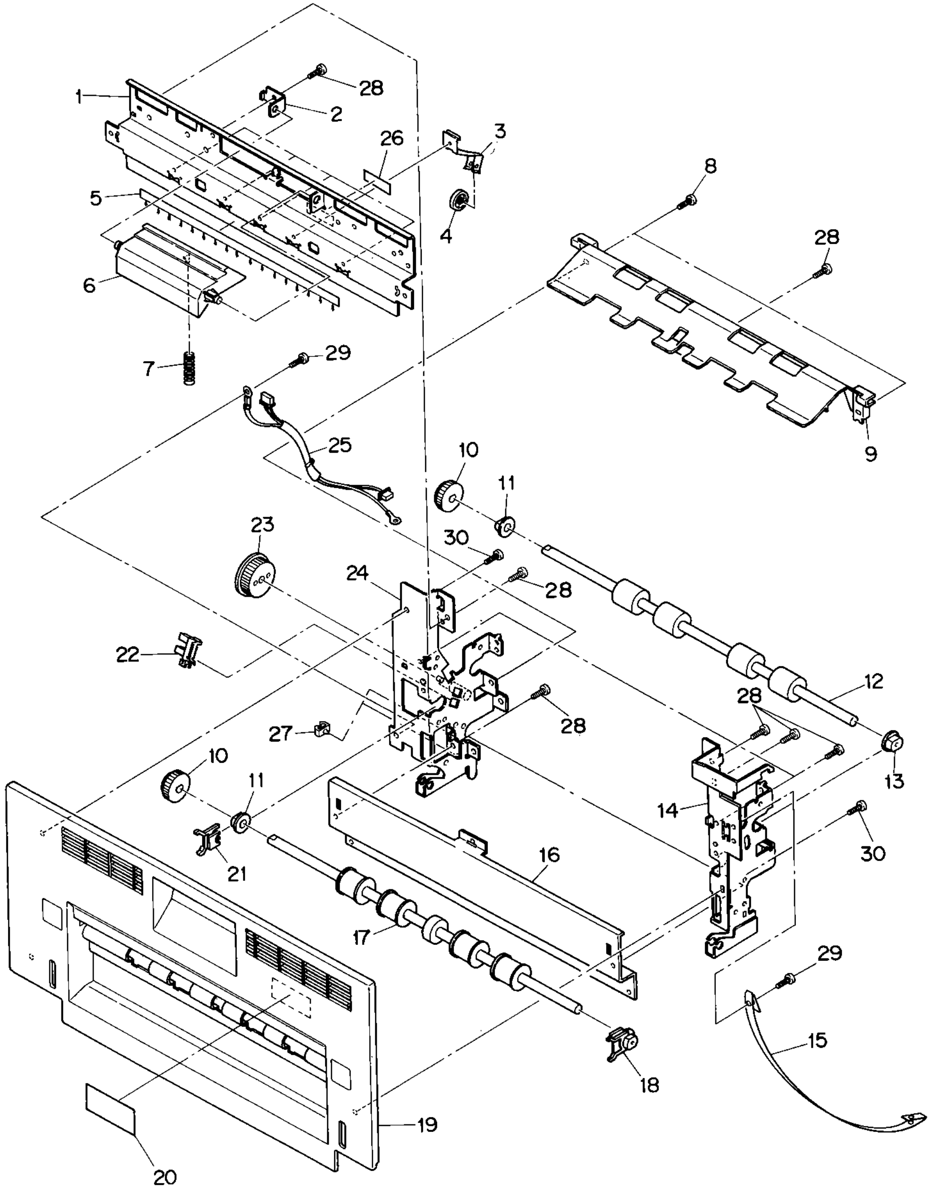
Fuser Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD1231	Pressure Plate	1	C	D
2	FFPLP0928	Pressure Spring	1	C	B
3	FFPMQ0498	Bushing, Web Roller	3	C	D
4	FFPLP0929	Pressure Spring	2	C	B
5	FFPMQ0499	Bushing, Pressure Roller	2	N	D
6	FFPMA0470	Pressure Roller	1	C	D
7	FFPKD10301	Pressure Plate, Front	1	C	D
8	FFPXT01908	Front Frame	1	C	D
9	FFPXT149081	Rear Frame	1	C	D
10	FFPKD10291	Pressure Plate, Rear	1	C	D
11	FFPKM0271	Cleaning Web Roller	1	C	A
12	FFPKE0831	Harness Cover	1	N	D
13	FFPMQ05011	One Way Bushing	1	N	D
14	FFPLG1369	Gear Shaft 2	1	C	C
15	FFPMF07131	Gear 1	1	C	D
16	FFPLL0409	Lever	1	C	D
17	XPJ2D12WV	Pin	1	C	D
18	FFPMQ0503	Gear Bushing 2	1	N	D
19	FFPLP0749	Lift Spring, Lever	1	C	D
20	FFPMF0800	Gear 3	1	C	C
21	FFPMF0716	Gear 4	2	C	C
22	FFPLP0792	Tension Spring	1	C	B
23	FFPMQ0401	Bushing, Lever	1	N	D
24	FFPMQ0502	Gear Bushing 1	1	N	D
25	FFPKQ00831	Gear Frame	1	C	D
26	FFPKD1232	Upper Frame	1	C	D
27	FFPKD1234	Rear Frame	1	C	D
28	XYN4+F8	Screw (M4x8)	4	C	D
29	XUC4VM	E Ring	2	C	D
30	XTB4+8H	Screw (M4x8)	4	C	D
31	XYN5+F8	Screw (M5x8)	2	C	D
32	XUC5VM	E Ring	1	C	D



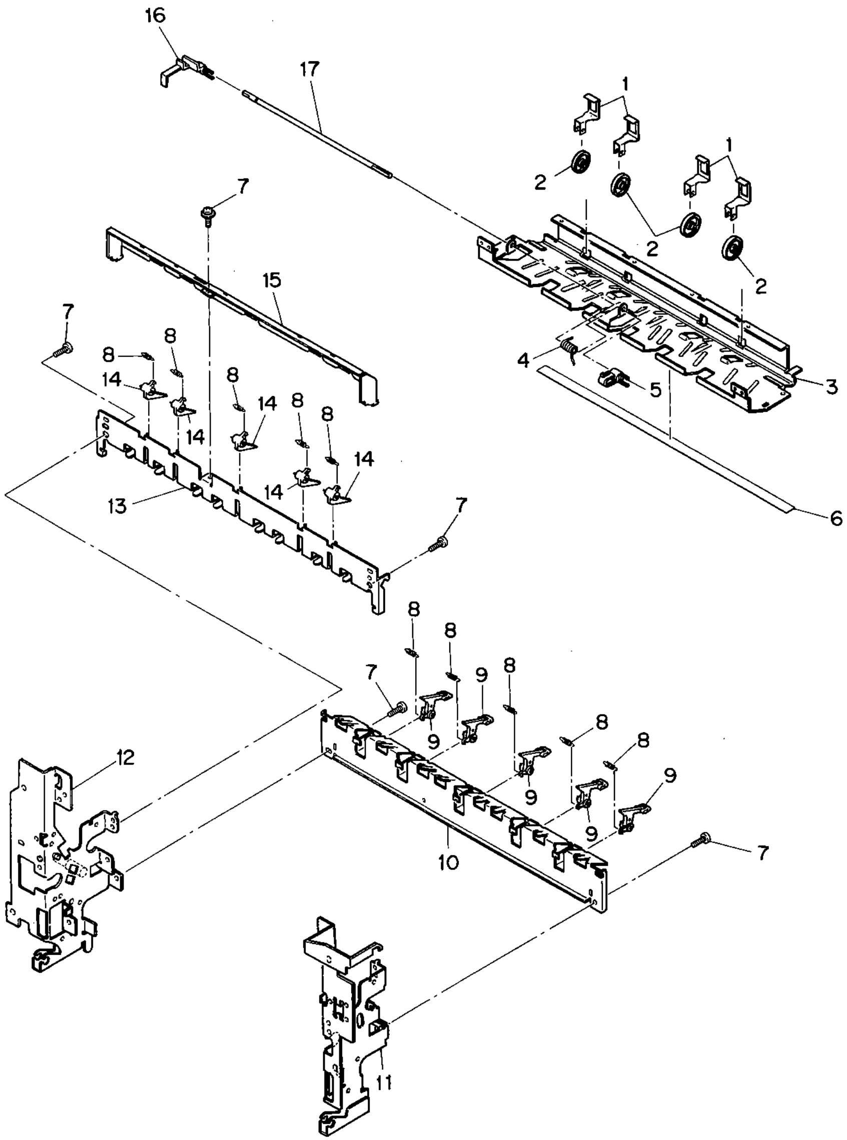
Fuser Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKF09501	Paper Guide, Front Upper	1	C	D
2	FFPKF09492	Paper Guide, Front Lower	1	C	D
3	FFPDU0025	Discharge Brush	1	C	C
4	FFPKQ0104	Front Base, Lamp Lead	1	C	C
5	FFPXT02900	Lamp Lead, Front	1	C	C
6	IK24V085W67	Fuser Lamp ⚠	1	C	A
6	H24V085WN2A	Fuser Lamp (or) ⚠	1	C	A
7	FFPLP0741	Lamp Spring	1	C	B
8	FFPMQ0385	Bushing	2	C	C
9	FFPWC1225	FU Harness 2 ⚠	1	C	D
10	FFPMA0359	Heat Roller	1	C	A
11	FFPMQ0043	Bearing	2	C	C
12	FFPMA03582	Pressure Roller	1	C	A
13	FFPXT01908	Front Frame	1	C	D
14	FFPDU0047	Discharge Brush	1	C	C
15	FFPLP07402	Tension Spring	2	C	B
16	FFPKD1026	Pressure Plate, Front	1	C	D
17	FFPKB07442	Bottom Plate	1	C	D
18	FFPKD1027	Pressure Plate, Rear	1	C	D
19	FFPXT149081	Rear Frame	1	C	C
20	FFPMF0706	Idle Gear 1	1	C	C
21	FFPMF0707	Idle Gear 2	1	C	C
22	FFPXT05950	Lamp Lead, Rear	1	C	C
23	FFPKQ0103	Rear Base	1	C	D
24	FFPMF0888	Gear, Heat Roller	1	C	C
25	FFPXT09950	Thermistor ⚠	1	C	C
26	FFPWC1285	FU Harness 1 ⚠	1	C	D
27	FFPKD08062	Harness Support	1	C	D
28	FFPKQ0082	Holder	1	C	D
29	FFPXT15900	Thermostat ⚠	1	C	C
30	FFPTE16151	Caution Label, High Temperature	1	C	D
31	XTB4+6F	Screw (M4x6)	1	C	D
32	UAMS05S2	Clamp	4	C	D
33	XYN4+F8	Screw (M4x8)	7	C	D
34	XTB4+8F	Screw (M4x8)	8	C	D



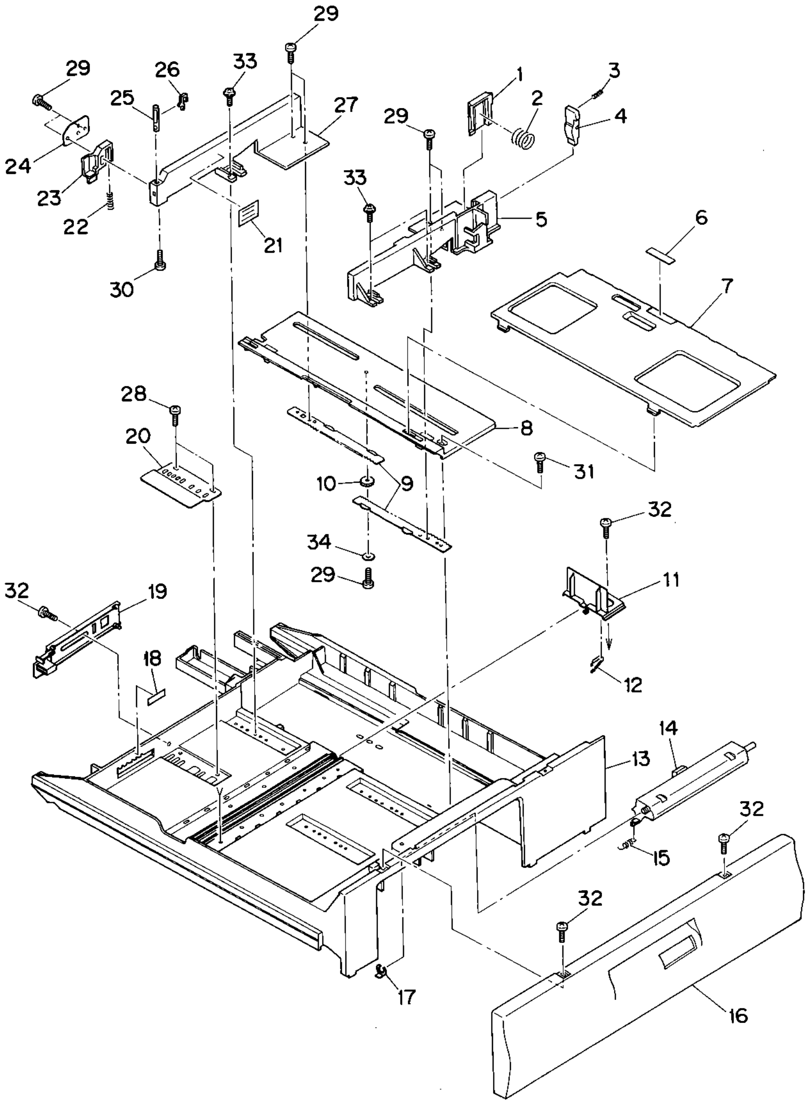
Paper Exit Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com- mon	Rank
1	FFPKD08074	Bracket	1	C	D
2	FFPKD08121	Knob Support	1	C	D
3	FFPKD08113	Roller Support	5	C	D
4	FFPMA03651	Guide Roller	5	C	A
5	FFPDU0025	Discharge Brush	1	C	B
6	FFPLA00801	Knob	1	C	C
7	FFPLP0744	Knob Spring	1	C	B
8	FFPFA0021	Shoulder Screw	2	C	D
9	FFPKF0961	Front Guide, Paper Exit	1	C	D
10	FFPMF0711	Gear A	2	C	C
11	FFPMQ0005	Bushing	2	C	B
12	FFPMA03601	Roller, Paper Roller, Paper Exit	1	C	A
13	FFPMQ0386	Bushing	1	C	B
14	FFPKB07063	Front Frame	1	C	D
15	FFPKM0223	Belt	1	C	D
16	FFPKD08082	Lower Support 1	1	C	D
17	FFPMA03621	Roller, Paper Exit	1	C	A
18	FFPMQ0434	Bushing	1	C	B
19	FFPNA04701	Paper Exit Cover ⚠	1	C	D
20	FFPTE15942	Label, Open/Close	1	C	D
21	FFPKD08691	Bushing Support	1	C	B
22	GP1A71A1	Sensor, Paper Exit	1	C	B
23	FFPMF0712	Gear B	1	C	C
24	FFPXF019001	Rear Frame	1	C	D
25	FFPWC1226	U Harness Paper Exit	1	C	D
26	FFPTE1667	Caution Label, High Temperature	1	C	D
27	UAMS05S2	Clamp	1	C	D
28	XTB4+8F	Screw (M4x8)	8	C	D
29	XYN4+F8	Screw (M4x8)	2	C	D
30	XTB4+10G	Screw (M4x10)	2	C	D



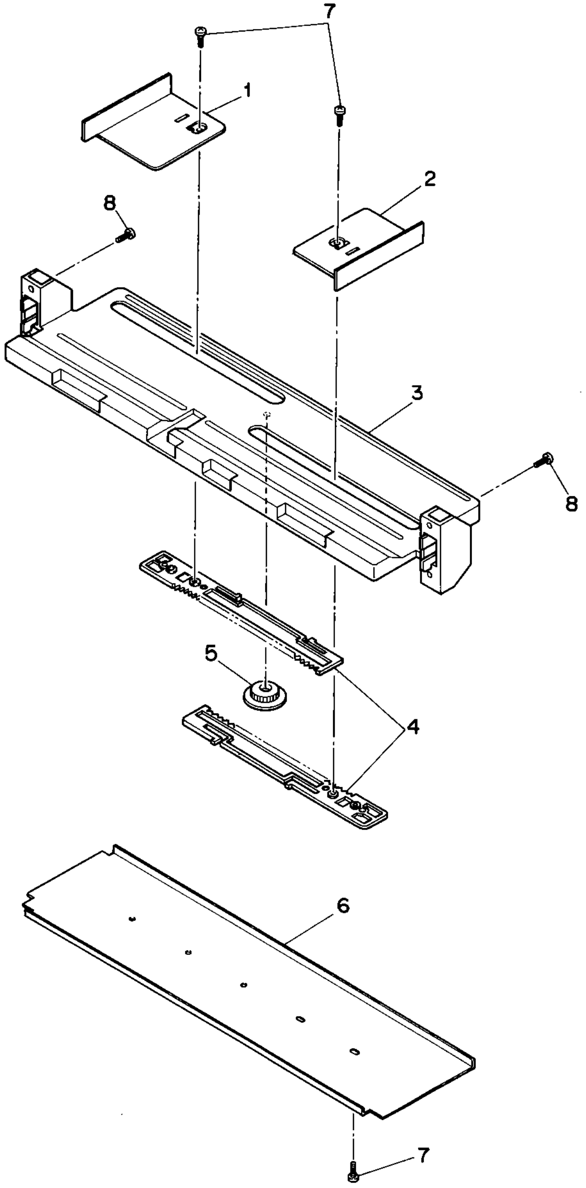
Paper Exit Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD08101	Roller Support	4	C	D
2	FFPMA03651	Guide Roller	4	C	D
3	FFPKF09531	Upper Guide	1	C	D
4	FFPLR0222	Release Spring	1	C	B
5	FFPLL0407	Sensor Lever, Front	1	C	D
6	FFPHK05481	Guide Mylar	1	C	B
7	XYN4+F8	Screw (M4x8)	5	C	D
8	FFPLP0743	Spring, Separation Finger	10	C	B
9	FFPLK0231	Separation Finger, Lower	5	C	A
10	FFPKF09542	Paper Guide, Rear Lower	1	C	D
11	FFPKB07063	Front Frame	1	C	D
12	FFPXF019001	Rear Frame	1	C	D
13	FFPKF09584	Paper Guide, Rear Upper	1	C	D
14	FFPLK0230	Separation Finger, Upper	5	C	A
15	FFPKE07782	Upper Guide Cover, Fuser	1	C	D
16	FFPLL04081	Sensor Lever, Rear	1	C	D
17	FFPLG09862	Sensor Shaft	1	C	D



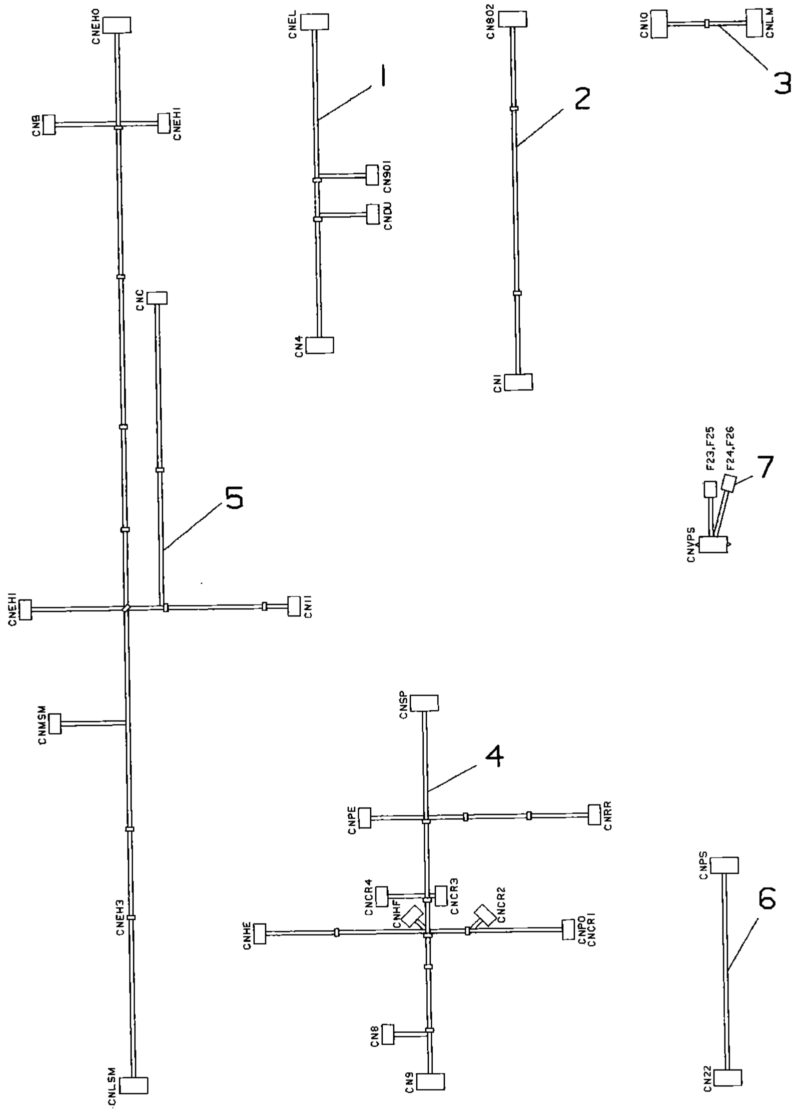
250 Sheet Paper Tray

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPQG0052	Paper Guide	1	C	D
2	FFPLP0848	Spring	1	C	B
3	FFPLP0763	Spring	1	C	B
4	FFPLL0427	Release Lever	1	C	D
5	FFPQG00642	Paper Guide A, Front	1	C	D
6	FFPKM0167	Pad	1	C	A
7	FFPXC04B50	Bottom Plate, W/Pad	1	C	D
8	FFPKS07061	Adjusting Plate	1	C	D
9	FFPMF0828	Rack	2	C	C
10	FFPMF0829	Pinion Gear	1	C	C
11	FFPQG00512	Paper Guide, Rear	1	C	D
12	FFPLQ0331	Spring	1	C	B
13	FFPQA00974	Main Frame	1	C	D
14	FFPLL0426	Tray lever	1	C	D
15	FFPLP0764	Spring	1	C	B
16	FFPXC03903	Tray Cover, Front	1	C	D
17	FFPFJ0033	Snap Ring	1	C	D
18	FFPTE16012	Label, Paper Size	1	C	D
19	FFPKS07053	Sensor Plate, Detection	1	C	D
20	FFPKS0953	Plate, Paper Size	1	C	D
21	FFPTE1599	Label, Paper Level	1	C	D
22	FFPLP0904	Spring	1	C	B
23	FFPKS0955	Block	1	C	D
24	FFPKS0956	Guide Plate	1	C	D
25	FFPLB0131	Push Button	1	C	C
26	FFPKF1031	Stopper	1	C	D
27	FFPQG00701	Paper Guide A, Rear	1	C	D
28	XYN3+F8	Screw (M3x8)	2	C	D
29	XTB3+8G	Screw (M3x8)	7	C	D
30	XTN3+6G	Screw (M3x6)	1	C	D
31	XYN4+F8	Screw (M4x8)	1	C	D
32	XTB4+10G	Screw (M4x10)	4	C	D
33	XTW4+14Q	Screw (M4x14)	3	C	D
34	XWG3	Washer	1	C	D



Seet Bypass Tray

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPQG0071	Paper Guide, Rear	1	N	D
2	FFPQG0072	Paper Guide, Front	1	N	D
3	FFPQA0131	Tray, Sheet Bypass	1	N	D
4	FFPMF0828	Rack	2	C	D
5	FFPMF0829	Pinion Gear	1	C	C
6	FFPKE0958	Cover, Rack	1	N	D
7	XTB3+8G	Screw (M3x8)	3	C	D
8	XTT4+8FFN	Screw (M4x8)	2	C	D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CNB
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CNII
CNMSM
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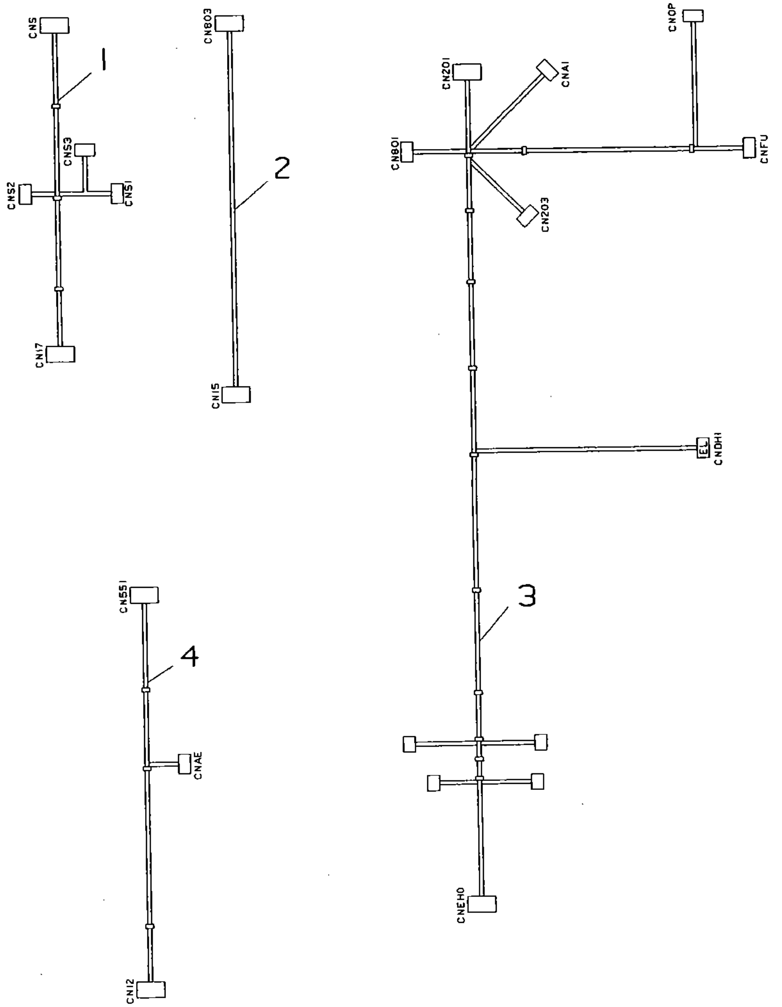
CN802
2
CNI
CN10
CNLM
3
F23,F25
F24,F26
7
CNVPS
CNSP
4
CNPE
CNRR
CNCR4
CNHF
CNCR3
CNCR2
CNHE
CNPO
CNCRI
CN8
CN9
CNPS
6
CN22

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1452	CN Harness	1	C	D
2	FFPWC1209	VL Harness	1	C	D
3	FFPWC1473	OM Harness	1	N	D
4	FFPWC1524	RB Harness	1	N	D
5	FFPWC1474	OS Harness	1	N	D
6	FFPWC1328	PSS Harness	1	C	D
7	FFPWC1207	VPD Harness	1	C	D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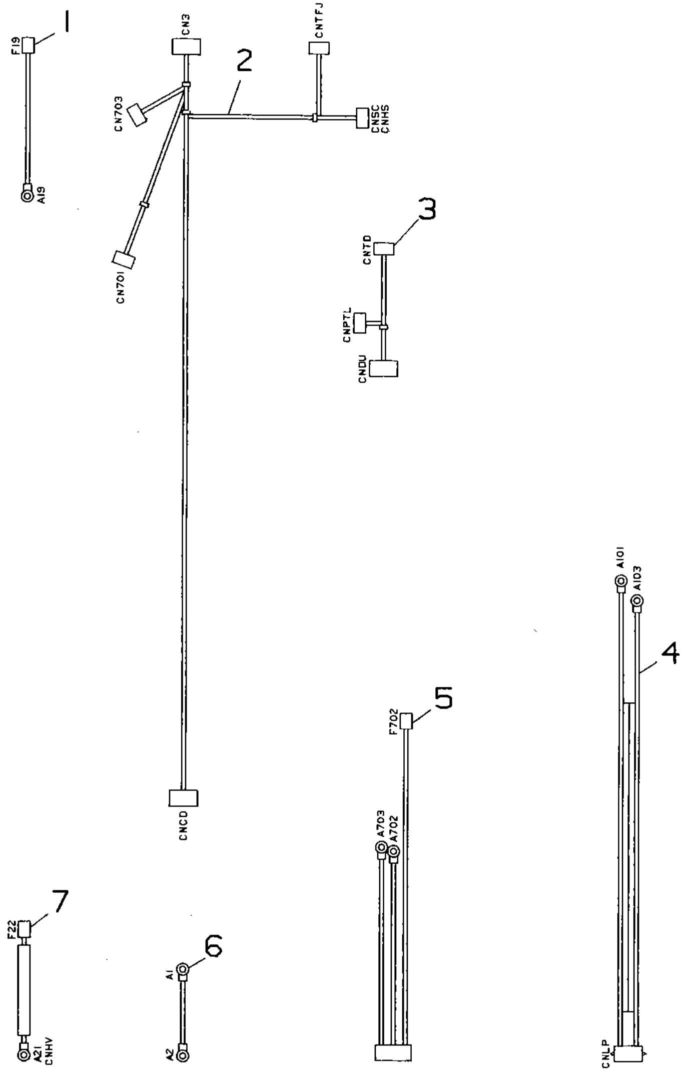
CN53
CN52
CN51
CN17
CN803
2
CN15
CNOP
CN201
CNA1
CN801
CNFU
CN203
EL
CNDH1
3
CNEH0
CN551
4
CNAE
CN12

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1218	T Harness	1	C	D
2	FFPWC1208	VP Harness	1	C	D
3	FFPWC1385	AJ Harness	1	N	D
4	FFPWC1312	AE Harness	1	C	D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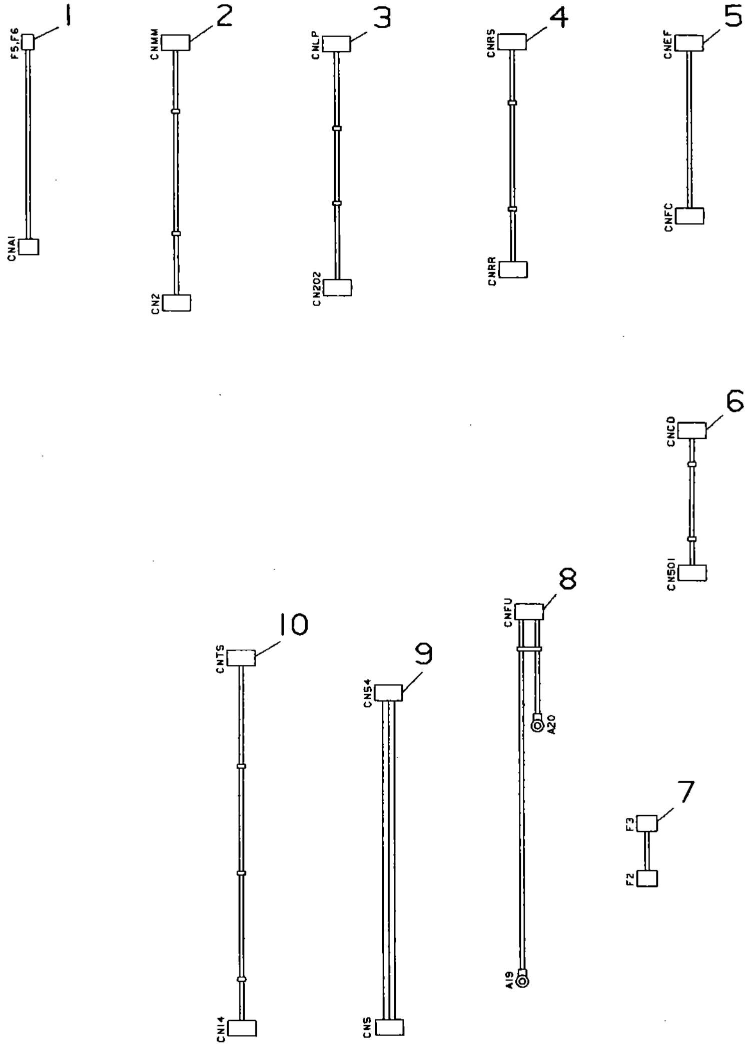
F19
A19
2
CN3
CNTFJ
CN703
CNSC
CNHS
CN701
CNCD
3
CNTD
CNPTL
CNDU
4
A101
A103
CNLP
5
F702
A703
A702
7
F22
A21
CNHV
6
A1
A2

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1244	LP Harness 2	1	C	D
2	FFPWC1449	HVC&CT Harness	1	C	D
3	FFPWC1222	BG Harness	1	C	D
4	FFPWC1202	LP Harness	1	C	D
5	FFPWC1203	HV Harness 1	1	C	D
6	FFPWC1285	FU Harness 1	1	C	D
7	FFPWC1326	HE Harness	1	C	D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CN2
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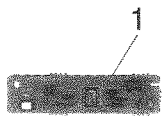
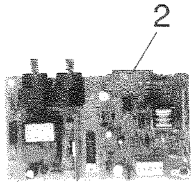
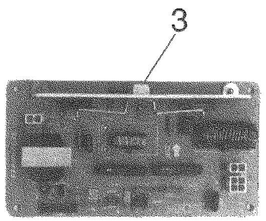
CNLP
CN202
4
CNRS
CNRR
5
CNEF
CNFC
6
CNCD
CN501
10
CNTS
CN14
9
CN54
CN5
8
CNFU
A20
A19
7
F3
F2

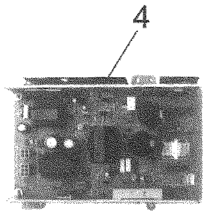
Electronics

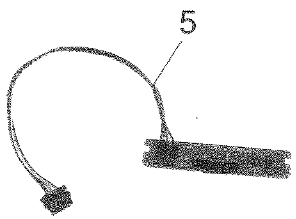
Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1230	AB Harness 1 ⚠	1	C	D
2	FFPWC1210	MM Harness	1	C	D
3	FFPWC1206	LJ Harness	1	C	D
4	FFPWC1525	HA Harness	1	C	D
5	FFPWC1455	EF Harness	1	C	D
6	FFPWC1317	ID Harness	1	C	D
7	FFPWC1286	AB Harness 2	1	C	D
8	FFPWC1225	FU Harness 2 ⚠	1	C	D
9	FFPWC1219	T Harness 2	1	C	D
10	FFPWC1217	CP Harness	1	C	D

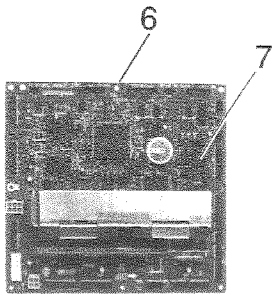


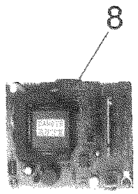






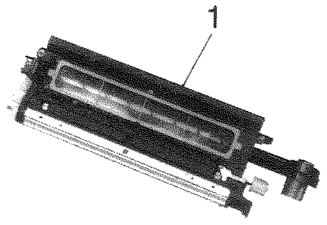


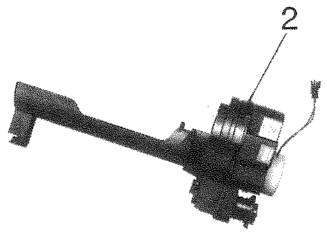


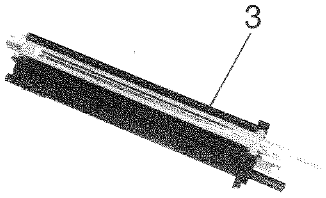


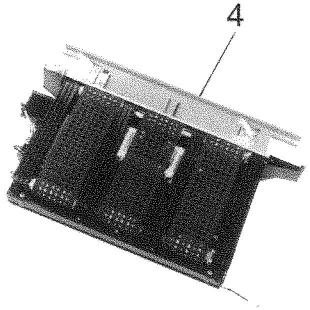
Electronics

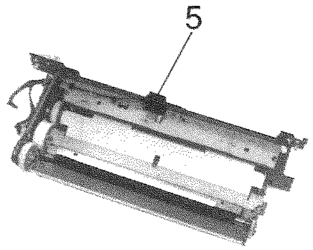
Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWB0471	PCB Copy Density	1	C	C
2	EUKMBN410HA	PCB HVPS (1)	1	C	C
3	FFPWB05332	PCB AC Driver	1	C	C
3	FFPWB05333	PCB AC Driver, For Nordic	1	C	C
4	FFPWB05272	PCB LVPS	1	C	C
4	FFPWB05275	PCB LVPS (or)	1	C	C
5	FFPWB0518	PCB Auto Original Density	1	C	C
6	FFPWB05437	PCB CPU W/O P-Rom	1	C	C
7	FFPAH0166M	P-Rom	1	N	C
8	EUKSBN409HB	PCB HVPS (2)	1	C	C

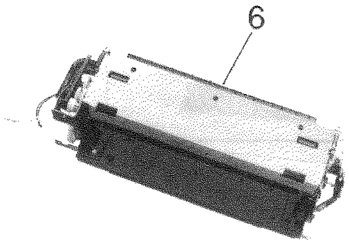


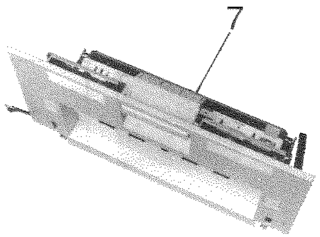












Assemblies

Ref. No.	Part No.	Description	Q'ty Per Unit	Common	Rank
1	FFPUG01C90	Developer Unit, Black	1	N	D
2	FFPUH01D11	Hopper Unit	1	N	D
3	FFPUG02B503	Drum Unit	1	N	D
4	FFPUE019515	Paper Transport Unit w/out Corona	1	C	D
5	FFPUQ01C23	Paper Feed Unit	1	N	D
6	FFPUT01D13	Fuser Unit	1	N	D
7	FFPUF019011	Paper Exit Unit	1	C	D

PM Parts Kit

1. 60k PM Kit (Part No. FQSK06P4080S)

Contents

No.	Description	Part No.	Q'ty
1	DFP Roller	FFPMA03781	1
2	DFP Roller	FFPMA0420	1
3	Cleaning Blade	FFPHK06331	1
4	Dust Protection Filter	FFPXK27950	1
5	Cleaning kit	FQ-SJ72	1

2. 120k PM kit (Part No. FQSK12P1670S)

Contents

No.	Description	Part No.	Q'ty
1	Transfer Roller (Bypass)	FFPMA0377	1
2	DFP Roller (Bypass)	FFPMA03781	1
3	Paper Feed Roller (Bypass)	FFPMA0159	1
4	Paper Feed Roller (Cassette)	FFPMA0503 (Rubber only)	1
5	DFP Roller (Cassette)	FFPMA0420	1
6	Side Seal (F)	FFPHP06382	1
7	Side Seal (R)	FFPHP06352	1
8	Spacer Ring	FFPHQ00311	2
9	Cleaning Blade	FFPHK06331	1
10	Separation Finger (U)	FFPLK0230	5
11	Separation Finger (L)	FFPLK0231	5
12	Cleaning Web	FFPTM0252	1
13	Corona Cleaner	FFPXE04900	1
14	Dust Protection Filter	FFPXK30B00	2
15	Dust Protection Filter	FFPXK27950	1
16	Corona Wire	FFPEY0051	1
17	Corona Wire	FFPEY0052	2
18	Cleaning Kit	FQ-SJ72	1

3. Individual PM+Parts

Following parts are individual PM parts in addition to the 60k or 120k PM kit used every PM cycle. Please order the necessary individual PM Parts according to the chart below.

Additional PM Parts

	Description	Part No.	60k	120k	180k	240k	300k	360k
*1	Heat roller	FFPMA0359				1		
	Heat roller bushing	FFPMQ0385				2		
	Thermistor	FFPXT09950				1		
	Pressure roller	FFPMA03582						1
	Ozone filter	FFPHJ0032	1	1	1	1		1
	Ozone filter	FFPHJ00332	1	1	1	1		1
	Paper feed roller (Bypass)	FFPMA0512 *5		1		1		1
	Cleaning web	FFPKM0271 *6	1					
	No.1 corona Ass'y	FFPXG60B501						1
	No.2/3 corona Ass'y	FFPVL01A421						1
	Discharge lamp	PQ24V10W				1		
	Exposure lamp	E16V025WN2A *2		1		1		1
	Fuser lamp	H24V085WN2A *3				1		

*1 : FQ-SKF-1780 : Fuser PM kit
*2 : or JK16V025WF67
*3 : or IK24V085W67
*4 : FP-1680 does not need FFPMA03781 (Bypass DFP roller).
*5 : FP-1680 does not need Transfer roller (FFPMA0377), Bypass DFP roller (FFPMA03781), and Paper feed roller (Bypass) is changed from FFPMA0159 to FFPMA0512.
*6 : Cleaning web (FFPKM0271 : 60k) is necessary to replace at first 60k.
Use cleaning web (FFPTM0252 :120k) included in FQSK12P1670S after 120k.

Numerical Parts Index

Part No.	Description	Page	Ref. No.	Qty Per Unit
42SPM24DCYE	Stepping Motor	13	11	2
BR6N4	Cord Bushing	28	29	1
CBDM24A4-901	Fan Motor	30	12	1
CH48I40	Choke Coil	28	30	1
D125J60-36	Bottle Motor	17	17	1
D125J60-36	Bottle Motor	20	12	1
E16V025WN2A	Exposure Lamp (or)	15	12	1
EDS2	Edge Saddle	6	29	1
EDS2	Edge Saddle	8	17	1
EDS2	Edge Saddle	11	6	1
EDS2	Edge Saddle	12	22	1
EESX461P4	Sensor, Waste Toner	6	35	1
ERZC10DK781	ZNR	24	19	1
ESD-R16C	Ferrite Core	28	31	1
ESE15403	Sensor	28	21	1
EUKMBN410HA	PCB HVPS(1)	11	21	1
EUKMBN410HA	PCB HVPS (1)	41	2	1
EUKSBN409HB	PCB HVPS (2)	41	8	1
EUKSBN409HB	PCB HVPS (2)	11	8	1
F921-A14L	Door Switch	6	12	2
FFPAH0166M	P-Rom	11	23	1
FFPAH0166M	P-Rom	41	7	1
FFPCP0034	Heater, Dehumiditication	4	4	1
FFPCP0035	Heater, Dehumidification	14	14	2
FFPCV0008	Total Counter	3	9	1
FFPDA00253	Socket, High Voltage	11	20	1
FFPDA00264	Socket	19	18	1
FFPDA00271	T-DT Socket	10	14	1
FFPDC0002	Plastic Cap	3	20	1
FFPDE0035	Corona Terminal	11	29	1
FFPDE00372	Bias Terminal	10	4	1
FFPDE0044	Ground Terminal	20	17	1
FFPDF02081	Grid Lead	19	16	1
FFPDF0209	Bias AC Lead	10	3	1
FFPDF0210	Corona Lead	11	28	2
FFPDF0226	Bias Lead (3), Developer	18	11	1
FFPDF0226	Bias Lead (3), Developer	21	11	1
FFPDF0242	Ground Plate	30	9	1
FFPDF0243	Ground Plate	24	17	1
FFPDF0244	Ground Plate	26	11	1
FFPDK01872	Bias Lead (2)	10	2	1
FFPDN0022	Magnetic Roller	18	15	1
FFPDN0022	Magnetic Roller	21	15	1
FFPDU0025	Discharge Brush	32	3	1
FFPDU0025	Discharge Brush	33	5	1
FFPDU0047	Discharge Brush	32	14	1
FFPEM0004	Breaker	28	15	1
FFPEQ0062	Solenoid, Cleaning Web	10	9	1
FFPEV0103	Power Cord	28	19	1
FFPEV0104	Power Cord, For U.K.	28	19	1

Numerical Parts Index

Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPEV0105	Power Cord, For Australia	28	19	1
FFPEY0051	Corona Wire 1	22	13	1
FFPEY0052	Corona Wire 2	19	12	1
FFPEY0052	Corona Wire 2	22	12	1
FFPFA0020	Shoulder Screw	27	28	2
FFPFA0021	Shoulder Screw	33	8	2
FFPFA0072	Shoulder Screw	6	20	2
FFPFA0072	Shoulder Screw	11	1	1
FFPFA0109	Shoulder Screw	5	24	1
FFPFA0111	Screw, Slit Plate	15	2	5
FFPFA0113	Screw, Developer Lever	5	4	1
FFPFA0114	Shoulder Screw	11	4	2
FFPFA0121	Shoulder Screw	13	48	1
FFPFA0135	Shoulder Screw	15	37	1
FFPFA0135	Shoulder Screw	16	17	1
FFPFG04351	Pin	29	10	2
FFPFJ0005	Snap Ring	20	10	1
FFPFJ0033	Snap Ring	5	20	1
FFPFJ0033	Snap Ring	17	22	1
FFPFJ0033	Snap Ring	23	19	1
FFPFJ0033	Snap Ring	24	10	1
FFPFJ0033	Snap Ring	35	17	1
FFPFJ0039	Snap Ring	24	15	1
FFPFJ0039	Snap Ring	25	12	3
FFPGA0042	Lens	13	23	1
FFPGB00171	Lamp Filter	5	17	1
FFPGB00201	Filter, Anti-Dust	12	4	2
FFPGC0152	No.6 Mirror	14	28	1
FFPGC0153	No.1 Mirror	15	16	1
FFPGC0154	Platen Glass	1	3	1
FFPGC0156	4/5 Mirror	14	4	2
FFPGC0157	Main Reflector	15	9	1
FFPGC0159	No.2/3 Mirror	16	8	2
FFPHA0044	Duct 2	30	11	1
FFPHA00452	Duct 3	30	5	1
FFPHA00462	Duct 4	30	7	1
FFPHA00472	Duct	11	11	1
FFPHA0063	Duct	7	9	1
FFPHG0036	Recycle Coil	19	30	1
FFPHH00712	Stirring Paddle	18	10	1
FFPHH00712	Stirring Paddle	21	10	1
FFPHJ0032	Filter	11	12	1
FFPHJ00332	Ozone Filter	7	12	1
FFPHK05481	Guide Mylar	34	6	1
FFPHK06331	Cleaning Blade	19	22	1
FFPHK0634	Slide Sheet	12	3	1
FFPHK06354	Doctor Blade	18	4	1
FFPHK06354	Doctor Blade	21	4	1
FFPHK0642	Mylar Sheet	22	4	1
FFPHK06501	Grid Cleaner	19	11	1

Numerical Parts Index

Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPHK0661	Slide Sheet (1)	6	3	1
FFPHK0662	Slide sheet (2)	6	7	1
FFPHK0672	Bottle Support	17	7	1
FFPHK0717	Sensor Mark Sheet	1	10	1
FFPHK07941	Guide Mylar	23	12	1
FFPHK0807	Slide Sheet	13	29	1
FFPHK0808	Insulation Sheet	13	20	1
FFPHK0826	Guide Mylar	26	14	2
FFPHK0860	Fan Sheet	7	4	1
FFPHP0553	Seal	18	25	2
FFPHP05531	Seal	21	25	1
FFPHP06342	Seal	17	13	1
FFPHP06352	Side Seal, Rear	19	35	1
FFPHP06382	Side Seal, Front	19	32	1
FFPHP0650	Sponge Seal 9	19	33	2
FFPHP06511	Sponge Seal 10	19	34	1
FFPHP0652	Sponge Seal 11	19	21	1
FFPHP06562	Side Seal, Developer	18	21	1
FFPHP06562	Side Seal, Developer	21	21	1
FFPHP06732	Side Seal, Developer	18	17	1
FFPHP06732	Side Seal, Developer	21	17	1
FFPHP0680	Toner Seal	26	15	1
FFPHP0696	Side Seal L	18	34	1
FFPHP0696	Side Seal L	21	34	1
FFPHP0697	Side Seal R	18	35	1
FFPHP0697	Side Seal R	21	35	1
FFPHQ00311	Spacer Ring (FFPHQ0042, for Production)	18	13	2
FFPHQ00311	Spacer Ring (FFPHQ0042, for Production)	21	13	2
FFPHQ0034	Roller Coupling	5	28	1
FFPJA0227	Lid, Corona Lead	11	26	1
FFPJA0228	Corona Lid, Front	19	3	1
FFPJA0229	Corona Lid, Rear	19	15	1
FFPJA02301	Corona Base, Rear	19	19	1
FFPJA02326	Corona Block, Front	22	8	1
FFPJA02332	Corona Cover, Front	22	5	1
FFPJA02346	Corona Block, Rear	22	14	1
FFPJA02361	Corona Cover, Rear	22	16	1
FFPJA02383	Corona Block, Front	19	7	1
FFPJC01871	Slit, Supplementary	13	24	1
FFPJC01881	Shield Cover, Corona	19	14	1
FFPJC01891	Insulation Sheet A	12	2	1
FFPJC0191	Adjust Plate, Optics	15	3	1
FFPJC0192	Adjust Plate, Optics	15	5	1
FFPJC0193	Adjust Plate, Optics	15	6	1
FFPJC0194	Adjust Plate, Optics	15	4	1
FFPJC01951	Insulation Sheet B	13	26	1
FFPJC01971	Insulation Sheet D	12	13	1
FFPJC0203	Insulation Seal C	13	2	1
FFPJC0204	Insulation Sheet E	13	38	1
FFPJG0001	Cleaning Brush	14	30	1

Numerical Parts Index

Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPKB06804	Optics Frame	12	6	1
FFPKB06852	Lamp Frame	15	14	1
FFPKB06954	Frame, 4/5 Mirror	14	5	1
FFPKB0696	Frame, 4/5 Mirror Drive	13	21	1
FFPKB06992	Frame, Half Speed Unit	16	5	1
FFPKB07063	Front Frame	33	14	1
FFPKB07063	Front Frame	34	11	1
FFPKB07442	Bottom Plate	32	17	1
FFPKB07691	Frame, Paper Transport	30	8	1
FFPKB0805	Front Frame, Paper Feed	23	14	1
FFPKB0805	Front Frame, Paper Feed	24	21	1
FFPKB0805	Front Frame	25	14	1
FFPKB0805	Front Frame	26	13	1
FFPKB0805	Front Frame	27	8	1
FFPKB08075	Right Frame, Front	29	11	1
FFPKB08083	Right Frame, Rear	29	7	1
FFPKB08097	Left Frame, Front	29	13	1
FFPKB08107	Left Frame, Rear	29	15	1
FFPKB08141	Front Frame	14	26	1
FFPKB08151	Rear Frame	14	27	1
FFPKB08161	Lens Frame	13	30	1
FFPKB0818	Bracket, Pulley Mounting	13	31	1
FFPKD0711	Support, Slide Shaft	13	15	1
FFPKD0744	Lamp Holder, Discharge	5	34	1
FFPKD07451	Connector Bracket	11	2	1
FFPKD0746	LED Holder	6	4	1
FFPKD0760	Support, Magnetic Pole	18	12	1
FFPKD0760	Support, Magnetic Pole	21	12	1
FFPKD0773	Harness Holder	13	33	1
FFPKD07742	Glass Support, Rear	12	11	1
FFPKD0775	Support, Slide Shaft	13	8	1
FFPKD07771	Support	13	10	1
FFPKD07771	Support	14	2	1
FFPKD0778	Metal Plate (2)	13	34	1
FFPKD0779	Heater Holder	4	3	1
FFPKD0779	Heater Holder	14	13	2
FFPKD0781	Lamp Bracket, Front	15	10	1
FFPKD07822	Lamp Bracket, Rear	15	28	1
FFPKD07831	Lamp Terminal, Front	15	11	1
FFPKD07842	Lamp Terminal	15	26	1
FFPKD0785	Bushing Support	15	19	2
FFPKD0785	Bushing Support	16	2	2
FFPKD08062	Harness Support	32	27	1
FFPKD08074	Bracket	33	1	1
FFPKD08082	Lower Support 1	33	16	1
FFPKD08101	Roller Support	34	1	4
FFPKD08113	Roller Support	33	3	5
FFPKD08121	Knob Support	33	2	1
FFPKD08353	Bushing	23	26	2
FFPKD0852	Support, Roller Shaft	24	8	2

Numerical Parts Index

Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPKD08691	Bushing Support	33	21	1
FFPKD0907	Harness Holder	20	14	1
FFPKD0992	Round-edge Holder	15	25	1
FFPKD1026	Pressure Plate, Front	32	16	1
FFPKD1027	Pressure Plate, Rear	32	18	1
FFPKD10291	Pressure Plate, Rear	31	10	1
FFPKD10301	Pressure Plate, Front	31	7	1
FFPKD10361	Support	24	22	1
FFPKD1045	Roller Support	22	1	1
FFPKD1058	Transport Guide F	30	2	1
FFPKD1059	Transport Guide B	30	1	1
FFPKD11111	Duct Stav	7	16	1
FFPKD1115	Rear Frame, Lower	28	20	1
FFPKD1119	Roller Stay	27	12	1
FFPKD11201	Slider	27	16	1
FFPKD1123	Left Stay	29	16	1
FFPKD1124	Rear Frame	28	14	1
FFPKD1124	Rear Frame, Lower	29	2	1
FFPKD1126	Lever Shaft	23	4	1
FFPKD11361	Roller Support, Paper Feed	24	1	1
FFPKD1166	Stay, Reinforcement	27	10	1
FFPKD1230	Support, Guide Shaft	13	9	2
FFPKD1231	Pressure Plate	31	1	1
FFPKD1232	Upper Frame	31	26	1
FFPKD1234	Rear Frame	31	27	1
FFPKE07581	Harness Cover	4	7	2
FFPKE0760	Gear Cover	8	8	1
FFPKE07652	Corona Case	19	2	1
FFPKE07671	Gear Cover	17	16	1
FFPKE0770	Harness Cover	13	32	1
FFPKE077111	Cover	14	8	1
FFPKE07782	Upper Guide Cover, Fuser	34	15	1
FFPKE078211	Cover, Paper Feed	23	7	1
FFPKE0798	Cover	28	13	1
FFPKE0808	Motor Cover	20	13	1
FFPKE08252	Cover HVPS	11	24	1
FFPKE0831	Harness Cover	31	12	1
FFPKE08321	Cover, Magnetic Roller	20	16	1
FFPKE0856	Inner Cover, Middle	3	3	1
FFPKE08572	Sensor Cover	6	34	1
FFPKE08662	SW Power Cover	10	7	1
FFPKE08781	Roller Holder	27	15	1
FFPKE0884	Heater Cover	4	9	1
FFPKE0885	AC Block Cover	28	1	1
FFPKE0892	Optics Cover	12	1	1
FFPKE08931	Lower Cover	12	10	1
FFPKE0894	Lens Cover	13	1	1
FFPKE0937	Cover,TD Sensor	18	20	1
FFPKE0937	Cover, TD Sensor	21	20	1
FFPKE0938	Plate, Toner Dispersion	18	1	1

Numerical Parts Index

Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPKE0938	Plate, Toner Dispersion	21	1	1
FFPKE0939	Harness Cover	18	33	1
FFPKE0939	Harness Cover	21	33	1
FFPKE0943	PCB Cover	7	5	1
FFPKE0954	Cover, Gear	23	8	1
FFPKE0958	Cover, Rack	36	6	1
FFPKE1107	Fuser Rail, Front	4	8	2
FFPKF0928	Rail, Drum Unit L	5	30	1
FFPKF09311	Drum Rail, Right	5	15	1
FFPKF0932	Developer Rail, Left	5	14	1
FFPKF0933	Rail,Developer R	7	1	1
FFPKF09363	Cam (1)	5	7	1
FFPKF0937	Washer	17	12	1
FFPKF0938	Stopper	17	9	1
FFPKF0940	Lens Rail	13	16	1
FFPKF0942	Harness Guide 1	15	24	1
FFPKF0943	Harness Guide 2	15	21	1
FFPKF0944	Harness Guide 3	15	22	1
FFPKF09471	Corona Rail	30	4	1
FFPKF09492	Paper Guide, Front Lower	32	2	1
FFPKF09501	Paper Guide, Front Upper	32	1	1
FFPKF09531	Upper Guide	34	3	1
FFPKF09542	Paper Guide, Rear Lower	34	10	1
FFPKF09584	Paper Guide, Rear Upper	34	13	1
FFPKF0961	Front Guide, Paper Exit	33	9	1
FFPKF09643	Paper Guide 3	23	21	1
FFPKF0983	Stopper (1)	6	21	1
FFPKF09841	Stopper (2)	6	10	1
FFPKF09851	Stopper Rail	6	8	1
FFPKF09861	Hinge Stopper	23	10	2
FFPKF09872	Bottle Stopper	3	8	1
FFPKF1031	Stopper	35	26	1
FFPKF1053	Transfer Guide	22	2	1
FFPKF1104	Cover Plate	3	5	2
FFPKF1112	Lever Guide F	23	9	1
FFPKF1113	Upper Guide	26	9	1
FFPKF1114	Guide Plate, Registration	26	10	1
FFPKF11151	Paper Guide C	26	4	1
FFPKF11174	Bypass Guide	23	15	1
FFPKF1118	Paper Guide B	26	5	1
FFPKF11191	Paper Guide	27	11	1
FFPKF1120	Support	24	20	2
FFPKF1123	Pin	29	3	1
FFPKF1124	Front Stay	29	8	1
FFPKF1125	Rear Support, Upper	29	1	1
FFPKF11283	Rail, Lens Frame	13	7	1
FFPKF1129	Lever Guide R	23	24	1
FFPKF1170	Guide Plate	25	34	1
FFPKF1207	Guide Shaft, Optics	13	12	1
FFPKF1208	Clutch Support	27	2	1

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FFPKH0264	Spacer, Insulation	24	34	1
FFPKH0265	Spacer, Insulation	24	18	1
FFPKH0273	Spacer	25	33	1
FFPKM0167	Pad	35	6	1
FFPKM0169	Slider	14	6	1
FFPKM0171	Developer Knob	5	6	1
FFPKM01722	Inner Cover, Right	3	2	1
FFPKM0223	Belt	33	15	1
FFPKM02551	Separator	18	5	1
FFPKM02551	Separator	21	5	1
FFPKM0271	Cleaning Web Roller	31	11	1
FFPKM0276	Spacer	29	19	1
FFPKN0251	Duct Sela	11	10	1
FFPKN0256	Rubber A, Anti-Vibration	13	18	4
FFPKN0271	Cushion	1	14	2
FFPKN0274	Sponge Seal	12	9	1
FFPKN0275	Sponge Seal	12	21	1
FFPKN0282	Sheet, Mirror Support	16	12	2
FFPKN02891	Side Seal, Rear	18	18	1
FFPKN02891	Side Seal, Rear	21	18	1
FFPKN02901	Side Seal, Front	18	23	1
FFPKN02901	Side Seal, Front	21	23	1
FFPKN0319	Rubber Plate	7	11	2
FFPKP0048	Cleaning Felt	16	4	1
FFPKP0054	Felt	12	8	1
FFPKP0059	Felt	16	10	1
FFPKQ0064	Cam Base	5	13	3
FFPKQ00691	Grid Base	19	5	1
FFPKQ0070	Cleaning Base B, Cable	19	8	1
FFPKQ00733	Slide Bracket, Hopper	17	5	1
FFPKQ0074	Flange	13	3	2
FFPKQ0082	Holder	32	28	1
FFPKQ00831	Gear Frame	31	25	1
FFPKQ0103	Rear Base	32	23	1
FFPKQ0104	Front Base, Lamp Lead	32	4	1
FFPKQ0108	Base PCB Mounting	5	19	1
FFPKQ01092	Frame, No.2 Corona	22	9	1
FFPKQ0118	Sensor Bracket	24	3	1
FFPKQ0119	Hinge Block 1	23	11	1
FFPKQ0120	Hinge Block 2	23	28	1
FFPKR13675	Bracket, Door Switch	6	13	1
FFPKR13701	Bradket 1, High Voltage	11	17	1
FFPKR13711	Bracket HVPS Mounting	11	9	1
FFPKR1383	Bracket, Optics Cover	13	39	1
FFPKR1387	Support, Glass Holder	12	5	1
FFPKR13891	ADF Bracket	12	15	1
FFPKR13931	Support, Guide Roller	16	6	1
FFPKR1409	Solenoid Bracket	10	11	1
FFPKR14221	Bracket 1, Control Panel	6	27	1

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FFPKR14751	Holder, ADF Connector	12	12	1
FFPKR1481	Bracket 3, Control Panel	6	23	1
FFPKR14991	Plate, CPU Mounting	11	25	1
FFPKR15001	Bracket, Sensor Mounting	6	33	1
FFPKR1570	Roller Support	27	21	1
FFPKR1572	Bracket, AC Driver	11	16	1
FFPKR1574	Mirror Bracket	14	19	1
FFPKR1575	Bracket, Brush	14	11	1
FFPKR1576	Plate, Pulley Mounting	13	36	1
FFPKR1580	Bracket, S0 Mounting	12	30	1
FFPKS0190	Plate, Key counter	4	14	1
FFPKS0298	Magnet Yoke	3	6	4
FFPKS06522	Positioning Plate, Optics L	10	1	1
FFPKS0654	Option Out-let	28	16	1
FFPKS0655	Positioning Plate, Optics S	10	5	1
FFPKS0664	Hopper Shutter	17	14	1
FFPKS0669	Adjusting Plate	12	7	1
FFPKS06711	Adjusting Plate, Lens	13	25	1
FFPKS06751	Corona Grid	19	13	1
FFPKS07053	Sensor Plate, Detection	35	19	1
FFPKS07061	Adjusting Plate	35	8	1
FFPKS08901	Sub Plate	25	3	1
FFPKS08911	Stay, Reinforcement	24	27	1
FFPKS0892	Cover, Support	29	14	2
FFPKS0894	Bracket, Rear	28	7	1
FFPKS08951	Plate, Lens Positioning	13	27	1
FFPKS0896	Lift Lever	13	28	1
FFPKS0904	Harness Cover	28	2	1
FFPKS0953	Plate, Paper Size	35	20	1
FFPKS0955	Block	35	23	1
FFPKS0956	Guide Plate	35	24	1
FFPKS0961	Separation Plate	7	14	1
FFPKS0962	Spacer	7	10	1
FFPKU01121	Support Bracket, High Voltage	11	19	1
FFPKU01132	Reinforcement Bracket	12	29	1
FFPKU0116	Support Plate, Carriage	15	17	1
FFPKU01243	Reinforcement Plate (R)	4	2	1
FFPKU01301	Reinforcement Plate (L)	4	1	1
FFPKU0144	Reinforcement Plate	3	10	1
FFPLA0078	Transport Lever	5	21	1
FFPLA00791	Knob	5	27	1
FFPLA00801	Knob	33	6	1
FFPLA00812	Knob, Paper Feed	25	15	1
FFPLA00881	Knob, Stirring Paddle	18	8	1
FFPLA00881	Knob, Stirring Paddle	21	8	1
FFPLB0131	Push Button	35	25	1
FFPLG09411	Slide Pin	17	6	2
FFPLG09432	Drive Shaft 1	8	7	1
FFPLG09443	Drive Shaft 2	8	6	1

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FFPLG09513	Drum Support, Front	19	27	1
FFPLG0961	Slide Shaft	13	13	1
FFPLG0980	Lifting Shaft	5	22	1
FFPLG09862	Sensor Shaft	34	17	1
FFPLG1007	Shaft, Lift Roller	28	10	1
FFPLG1226	Cleaning Shaft	19	1	1
FFPLG1237	Sensor Shaft	27	24	1
FFPLG12411	Transport Roller	23	27	1
FFPLG1248	DFP Shaft	24	25	1
FFPLG1254	Shaft, Paper Feed	5	16	1
FFPLG1369	Gear Shaft 2	31	14	1
FFPLG1370	Shaft	23	17	1
FFPLG1371	Roller Shaft, Paper Feed	24	7	1
FFPLG1372	Clutch Shaft	25	24	1
FFPLG1429	Roller Shaft	27	9	1
FFPLJ0081	Cam (3)	5	12	2
FFPLJ00851	Lift Cam	5	29	2
FFPLJ0086	Cam (2)	5	11	1
FFPLK02232	Separation Finger L	22	10	2
FFPLK02242	Separation Finger R	22	11	1
FFPLK02281	Front Arm	6	2	1
FFPLK02291	Front Arm	9	1	1
FFPLK0230	Separation Finger, Upper	34	14	5
FFPLK0231	Separation Finger, Lower	34	9	5
FFPLK0232	Connecting Arm	23	5	2
FFPLL03991	Switch Lever	6	11	1
FFPLL04001	Inner Cover, Left	3	4	1
FFPLL0401	Pressure Lever, Developer	5	2	1
FFPLL04021	Release Lever	19	26	1
FFPLL0403	Slide Lever	17	2	1
FFPLL04061	Lever	6	25	1
FFPLL04061	Lever	9	3	1
FFPLL0407	Sensor Lever, Front	34	5	1
FFPLL04081	Sensor Lever, Rear	34	16	1
FFPLL0409	Lever	31	16	1
FFPLL04101	Lever 2	10	12	1
FFPLL04143	Lever	23	2	1
FFPLL04241	Sensor Lever	26	7	1
FFPLL04253	Sensor Lever	24	4	1
FFPLL0426	Tray lever	35	14	1
FFPLL0427	Release Lever	35	4	1
FFPLL04291	Bracket, Developer Knob	5	5	1
FFPLL0468	DFP Arm	24	23	1
FFPLL04932	Sensor Lever	26	2	1
FFPLL0495	Sensor Lever	27	14	1
FFPLL0497	Lift Lever	28	8	1
FFPLL0499	Lever 1	23	3	1
FFPLL0500	Lever 2	23	1	1
FFPLL05011	AE Lever	12	19	1

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FFPLL0504	Actuator	25	19	1
FFPLL0521	Lever	29	5	1
FFPLP0119	Tension Spring	25	17	1
FFPLP0721	Pressure Spring	5	46	1
FFPLP0722	Tension Spring, Grid	19	4	1
FFPLP07281	Spring	9	8	1
FFPLP0729	Spring (1)	5	9	4
FFPLP0730	Pressure Spring, Developer	5	1	1
FFPLP0731	Spring (2)	5	10	2
FFPLP0733	Shutter Spring	17	15	1
FFPLP0734	Hook Spring	17	3	1
FFPLP0735	Tension Spring	17	4	1
FFPLP07381	AE Spring	12	17	1
FFPLP07391	Lift Spring	6	26	1
FFPLP07391	Lift Spring	9	2	1
FFPLP07402	Tension Spring	32	15	2
FFPLP0741	Lamp Spring	32	7	1
FFPLP0742	Knob Spring	5	25	1
FFPLP0743	Spring, Separation Finger	34	8	10
FFPLP0744	Knob Spring	33	7	1
FFPLP0749	Lift Spring, Lever	31	19	1
FFPLP07561	Tension Spring	25	13	2
FFPLP0763	Spring	35	3	1
FFPLP0764	Spring	35	15	1
FFPLP0765	Spring	22	15	2
FFPLP07661	Tension Spring 1	22	6	1
FFPLP07671	Tension Spring 2	19	6	1
FFPLP07671	Tension Spring 2	22	7	1
FFPLP0769	Spring, Socket	19	17	1
FFPLP0783	Spring, Stopper Rail	6	9	1
FFPLP0784	Stopper Spring	6	22	1
FFPLP0792	Tension Spring	31	22	1
FFPLP08161	Pressure Spring	24	24	1
FFPLP08171	Release Spring	27	17	1
FFPLP0821	Tension Spring	14	7	1
FFPLP0848	Spring	35	2	1
FFPLP0849	Spring	29	4	1
FFPLP08501	Lift Spring	28	5	1
FFPLP0851	Lever Spring	23	6	1
FFPLP0856	Tension Spring	13	40	1
FFPLP0857	Tension Spring	13	37	1
FFPLP08862	Tension Spring	23	25	1
FFPLP0904	Spring	35	22	1
FFPLP0928	Pressure Spring	31	2	1
FFPLP0929	Pressure Spring	31	4	2
FFPLQ0267	Spring, No.1 Mirror	15	13	2
FFPLQ0268	Spring, 4/5 Mirror Support	14	3	2
FFPLQ0270	Spring, Corona	30	3	2
FFPLQ0278	Mirror Support	16	9	2

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FFPLQ0280	Spring Plate	5	23	1
FFPLQ03191	Spring	23	22	2
FFPLQ0330	Spring, Mirror Support	14	29	2
FFPLQ0331	Spring	35	12	1
FFPLQ0374	Spring	23	18	1
FFPLR01961	Spring, Blade Pressure	19	25	1
FFPLR0199	Release Spring	26	6	1
FFPLR0217	Spring Clutch	24	33	1
FFPLR0222	Release Spring	34	4	1
FFPLR0243	Spring	27	22	1
FFPLT0088	Rubber Sleeve, Anti-Vibration	13	19	4
FFPLT0090	Sleeve	12	16	1
FFPLT0099	Blade Shaft, Rear	19	36	2
FFPLT01002	Shaft, Front	19	23	1
FFPLU00251	Boss	24	32	1
FFPMA03543	Drive Roller	30	16	1
FFPMA03582	Pressure Roller	32	12	1
FFPMA0359	Heat Roller	32	10	1
FFPMA03601	Roller, Paper Roller, Paper Exit	33	12	1
FFPMA03621	Roller, Paper Exit	33	17	1
FFPMA03651	Guide Roller	33	4	5
FFPMA03651	Guide Roller	34	2	4
FFPMA0374	Lift Roller	28	9	1
FFPMA03951	Roller, Paper Feed W/No. 27	27	13	1
FFPMA0420	DFP Roller	24	28	1
FFPMA0421	Roller	22	3	3
FFPMA04261	Transfer Roller	30	18	3
FFPMA0443	Timing Roller, Drive	25	9	1
FFPMA0444	Timing Roller, Idle	25	7	1
FFPMA04453	Middle Roller	27	7	1
FFPMA0449	Roller	29	9	2
FFPMA0470	Pressure Roller	31	6	1
FFPMA0503	Roller, Paper Feed (Rubber only)	27	27	1
FFPMA0510	Guide Roller	15	15	1
FFPMA0510	Guide Roller	16	7	1
FFPMA0511	Roller	23	16	1
FFPMA0512	Roller, Pick up	24	16	1
FFPMB0137	Pulley (1)	13	5	1
FFPMB0138	Pulley (2)	13	35	1
FFPMB01391	Motor Pulley 1	8	14	1
FFPMB01391	Motor Pulley 1	9	11	1
FFPMB0140	Motor Pulley 2	8	15	1
FFPMB0140	Motor Pulley 2	9	9	2
FFPMB0171	Pulley B	14	9	1
FFPMB01751	Harness Guide	16	11	1
FFPMD00191	Cable Drum	14	23	1
FFPMF0248	Drive Gear	20	6	1
FFPMF0675	Idle Gear, Lens	13	6	1
FFPMF0676	Idle Gear	13	22	1
FFPMF06793	Gear 1, Speed Reduction	8	3	1

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FFPMF0680	Drive Gear 1	8	12	1
FFPMF06811	Drive Gear 2	8	11	1
FFPMF0682	Drive Gear, Fuser	8	4	1
FFPMF0682	Gear, Fuser Drive	9	7	1
FFPMF0683	Drive Gear, Transfer	8	2	1
FFPMF0686	Gear, Magnetic Roller	18	24	1
FFPMF0686	Gear, Magnetic Roller	21	24	1
FFPMF0688	Idle Gear 1	18	29	1
FFPMF0688	Idle Gear 1	21	29	1
FFPMF0692	Gear, Recycle Coil	19	39	1
FFPMF0693	Idle Gear, Recycle Coil	19	31	1
FFPMF06951	Motor Gear	17	19	1
FFPMF06951	Motor Gear	20	8	1
FFPMF0696	Gear 1, Hopper Sensor	17	11	1
FFPMF06971	Hopper Gear	17	24	1
FFPMF06971	Hopper Gear	20	4	1
FFPMF0698	Hopper Gear	17	21	1
FFPMF0699	Shaft Gear 2, Sensor	17	25	1
FFPMF0700	Idle Gear	14	21	1
FFPMF07034	Rack	14	1	1
FFPMF0706	Idle Gear 1	32	20	1
FFPMF0707	Idle Gear 2	32	21	1
FFPMF0711	Gear A	33	10	2
FFPMF0712	Gear B	33	23	1
FFPMF07131	Gear 1	31	15	1
FFPMF0716	Gear 4	31	21	2
FFPMF0724	Gear, Timing Roller	25	8	1
FFPMF0725	Gear, Timing Roller	25	16	1
FFPMF0726	Idle Gear, 46T	25	22	1
FFPMF07281	Gear, 32/16T	25	11	1
FFPMF0729	Gear, 24T	24	6	1
FFPMF0744	Transfer Gear, Color	20	5	1
FFPMF0747	Idle Gear, Color	20	9	1
FFPMF0791	Idle Gear	27	4	1
FFPMF0792	Drive Gear	24	31	1
FFPMF0796	Idle Gear	27	3	1
FFPMF0797	DFP Gear	27	25	1
FFPMF0798	Idle Gear	17	23	1
FFPMF07991	Gear 1	30	15	1
FFPMF0800	Gear 3	31	20	1
FFPMF0822	Drive Gear	9	5	1
FFPMF08261	Cam/Gear	28	6	1
FFPMF0827	Lift Gear	28	4	1
FFPMF0828	Rack	35	9	2
FFPMF0828	Rack	36	4	2
FFPMF0829	Pinion Gear	35	10	1
FFPMF0829	Pinion Gear	36	5	1
FFPMF0888	Gear, Heat Roller	32	24	1
FFPMF0889	Gear, Stirring Paddle	18	27	1
FFPMF0889	Gear, Stirring Paddle	21	27	1

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FFPMF0891	Idle gear 2	21	30	1
FFPMF0892	Idle Gear 3	18	31	1
FFPMF0892	Idle gear 3	21	31	1
FFPMF0893	Gear, Toner Feed	18	28	1
FFPMF0893	Gear, Toner Feed	21	28	1
FFPMF0923	Gear	27	1	1
FFPMF0925	Gear	25	36	1
FFPMF0926	Idle Gear	25	20	1
FFPMF0927	Idle Gear	25	21	1
FFPML0019	Belt, Paper Transport	30	19	3
FFPMN0082	Belt	13	4	1
FFPMQ0005	Bushing	27	20	1
FFPMQ0005	Bushing	30	14	1
FFPMQ0005	Bushing	33	11	2
FFPMQ0043	Bearing	32	11	2
FFPMQ0093	Bushing	25	6	2
FFPMQ0094	Bushing	25	4	2
FFPMQ0166	Bushing	24	30	1
FFPMQ0273	Bearing (FFPMQ0504, for Production)	18	26	2
FFPMQ0273	Bearing (FFPMQ0504, for Production)	21	26	2
FFPMQ0280	Bushing	19	38	2
FFPMQ0357	Bushing	15	20	2
FFPMQ0357	Bushing	16	3	2
FFPMQ0366	Bearing	18	14	2
FFPMQ0366	Bearing	21	14	2
FFPMQ0371	Bushing	5	3	1
FFPMQ03721	Drum Bushing	19	40	1
FFPMQ0374	Blade Support	19	24	1
FFPMQ0383	Bushing	30	13	1
FFPMQ0385	Bushing	32	8	2
FFPMQ0386	Bushing	33	13	1
FFPMQ03941	Bushing	25	23	1
FFPMQ03961	Bushing	25	2	1
FFPMQ0401	Bushing, Lever	31	23	1
FFPMQ0434	Bushing	33	18	1
FFPMQ0445	Slider	18	22	1
FFPMQ0445	Slider	21	22	1
FFPMQ0448	Shaft Support, Paper Feed	24	5	2
FFPMQ0450	Bushing	5	45	1
FFPMQ0451	Bushing	27	6	3
FFPMQ0483	Bushing, Developer	18	9	1
FFPMQ0483	Bushing, Developer	21	9	1
FFPMQ0497	Roller Bushing	30	6	6
FFPMQ0498	Bushing, Web Roller	31	3	3
FFPMQ0499	Bushing, Pressure Roller	31	5	2
FFPMQ05011	One Way Bushing	31	13	1
FFPMQ0502	Gear Bushing 1	31	24	1
FFPMQ0503	Gear Bushing 2	31	18	1
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FFPMV0018	Polyslider	20	25	2
FFPMV0031	Polyslider	14	25	1
FFPMV0037	Polyslider	8	10	2
FFPMW00451	Drive Cable	14	22	1
FFPMW00451	Drive Cable	15	23	1
FFPNA04581	Right Cover	3	1	1
FFPNA04621	Top Cover, Rear	1	13	1
FFPNA04641	Top Cover, Left	1	12	1
FFPNA04674	Lower Cover, Control Panel	1	6	1
FFPNA04691	Left Cover, Lower	3	12	1
FFPNA04701	Paper Exit Cover	3	15	1
FFPNA04701	Paper Exit Cover	33	19	1
FFPNA04856	Platen Cover	2	1	1
FFPNA05621	Rear Cover	3	16	1
FFPND00802	Panel Cover	1	9	1
FFPNG00221	Magnet	3	7	1
FFPNG00331	Magnet	3	23	1
FFPNH005011	Hinge	2	3	2
FFPNH00511	Hinge, Front Cover	4	6	2
FFPNM0027	Foot	29	12	2
FFPNN00333	Platen Rubber	2	2	1
FFPPA03482	Original Guide	1	11	1
FFPPJ0141	Cover Sheet	12	33	1
FFPPJ0141	Insulation Sheet	15	36	1
FFPPJ01461	Cover Sheet	12	31	1
FFPQA00882	Toner Bottle, Waste	19	28	1
FFPQA00924	Exit Tray (1)	2	5	1
FFPQA00974	Main Frame	35	13	1
FFPQA0127	Upper Frame, Developer	18	3	1
FFPQA0127	Upper Frame, Developer	21	3	1
FFPQA0131	Tray, Sheet Bypass	36	3	1
FFPQA0875	Developer Frame, Lower	18	16	1
FFPQA0876	Developer Frame, Lower	21	16	1
FFPQB000702	Exit Tray (2)	2	6	1
FFPQF0031	Frame Lid, Developer	18	2	1
FFPQF0031	Frame Lid, Developer	20	2	1
FFPQF0031	Frame Lid, Developer	21	2	1
FFPQG00512	Paper Guide, Rear	35	11	1
FFPQG0052	Paper Guide	35	1	1
FFPQG00642	Paper Guide A, Front	35	5	1
FFPQG00701	Paper Guide A, Rear	35	27	1
FFPQG0071	Paper Guide, Rear	36	1	1
FFPQG0072	Paper Guide, Front	36	2	1
FFPTD0638	Operating Guide, English	2	7	1
FFPTD0639	Operating Guide, German	2	7	1
FFPTD0640	Operating Guide, French	2	7	1
FFPTD0641	Operating Guide, Dutch	2	7	1
FFPTD0642	Operating Guide, Italian	2	7	1
FFPTD0643	Operating Guide, Spanish	2	7	1

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FFPTE01661	Label, Warranty	3	25	1
FFPTE06161	Cution Label, For Nordic	3	27	1
FFPTE06971	Cution Label, For U.K./Australia	3	27	1
FFPTE1515	Label, Over Current	3	29	1
FFPTE1516	Label, Cord Disconnect	3	26	1
FFPTE1554	Panel, Power Switch	3	13	1
FFPTE1585	Label, Direction	5	35	1
FFPTE15942	Label, Open/Close	33	20	1
FFPTE1599	Label, Paper Level	35	21	1
FFPTE16012	Label, Paper Size	35	18	1
FFPTE16151	Caution Label, High Temperature	32	30	1
FFPTE1621	Caution Label, High Voltage	11	30	2
FFPTE1667	Caution Label, High Temperature	33	26	1
FFPTE1668	Label, CDI	17	8	1
FFPTE1845	Label, Toner Replacement	3	28	1
FFPTE1873	Label, Paper Jam	3	18	1
FFPUE019515	Paper Transport Unit w/out Corona	42	4	1
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UAMS05S2	Clamp	12	27	1
UAMS05S2	Clamp	14	33	3
UAMS05S2	Clamp	20	22	1
UAMS05S2	Clamp	24	9	2
UAMS05S2	Clamp	25	26	5
UAMS05S2	Clamp	27	31	2
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XPJ2D12WV	Pin	21	50	1
XPJ2D12WV	Pin	31	17	1
XPJ2D14WV	Pin	25	35	1
XPJ2D16WV	Pin	8	19	4
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XPL2A12WV	Spring Pin	21	45	1
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XSB4+10GFN	Screw (M4x10)	3	24	2
XSB4+6BN	Screw (M4x6)	18	38	2
XSB4+6BN	Screw (M4x6)	21	38	2
XSB4+8	Screw (M4x8)	15	29	2
XSS3+8	Screw (M3x8)	4	15	2
XST4+6FN	Screw (M4x6)	1	2	3
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XTB3+10G	Screw (M3x10)	18	37	4
XTB3+10G	Screw (M3x10)	18	39	4
XTB3+10G	Screw (M3x10)	21	37	4
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XTB3+12G	Screw (M3x12)	1	16	10
XTB3+6F	Screw (M3x6)	4	11	6
XTB3+6F	Screw (M3x6)	5	37	6
XTB3+6F	Screw (M3x6)	6	30	12
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XTB3+6F	Screw (M3x6)	16	14	4
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XTB3+6F	Screw (M3x6)	20	20	3
XTB3+6F	Screw (M3x6)	23	33	2
XTB3+6F	Screw (M3x6)	27	34	1
XTB3+6F	Screw (M3x6)	28	24	10
XTB3+6FFZ	Screw (M3x6)	13	43	4
XTB3+6FFZ	Screw (M3x6)	14	35	2
XTB3+6FFZ	Screw (M3x6)	15	31	4
XTB3+6FFZ	Screw (M3x6)	16	15	2
XTB3+6G	Screw (M3x6)	18	48	1
XTB3+6G	Screw (M3x6)	21	48	1
XTB3+8F	Screw (M3x8)	5	38	1
XTB3+8F	Screw (M3x8)	10	21	4
XTB3+8F	Screw (M3x8)	11	34	16
XTB3+8F	Screw (M3x8)	13	44	1
XTB3+8F	Screw (M3x8)	23	30	7
XTB3+8F	Screw (M3x8)	24	35	6
XTB3+8F	Screw (M3x8)	25	27	3
XTB3+8F	Screw (M3x8)	27	33	1
XTB3+8G	Screw (M3x8)	1	15	2
XTB3+8G	Screw (M3x8)	5	39	2
XTB3+8G	Screw(M3x8)	7	7	2
XTB3+8G	Screw (M3x8)	10	16	1
XTB3+8G	Screw (M3x8)	11	32	5
XTB3+8G	Screw (M3x8)	12	24	7
XTB3+8G	Screw (M3x8)	15	32	1
XTB3+8G	Screw (M3x8)	17	27	5
XTB3+8G	Screw (M3x8)	20	18	4
XTB3+8G	Screw (M3x8)	23	31	2
XTB3+8G	Screw (M3x8)	24	14	1
XTB3+8G	Screw (M3x8)	35	29	7
XTB3+8G	Screw (M3x8)	36	7	3
XTB3+8J	Screw (M3x8)	11	15	2
XTB4+10G	Screw (M4x10)	3	17	3
XTB4+10G	Screw (M4x10)	18	47	1
XTB4+10G	Screw (M4x10)	21	47	1
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XTB4+6F	Screw (M4x6)	14	36	7
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XTB4+8F	Screw (M4x8)	10	15	10
XTB4+8F	Screw (M4x8)	11	36	2
XTB4+8F	Screw (M4x8)	14	37	1
XTB4+8F	Screw (M4x8)	23	32	2
XTB4+8F	Screw (M4x8)	24	13	8
XTB4+8F	Screw (M4x8)	26	16	6
XTB4+8F	Screw (M4x8)	27	32	9
XTB4+8F	Screw (M4x8)	28	25	4
XTB4+8F	Screw (M4x8)	29	17	6
XTB4+8F	Screw (M4x8)	30	20	3
XTB4+8F	Screw (M4x8)	32	34	8
XTB4+8F	Screw (M4x8)	33	28	8
XTB4+8G	Screw (M4x8)	10	18	1
XTB4+8H	Screw (M4x8)	31	30	4
XTB4+8K	Screw (M4x8)	9	13	6
XTN3+6F	Screw (M3x6)	20	21	4
XTN3+6G	Screw (M3x6)	35	30	1
XTN4+12F	Screw (M4x12)	2	8	4
XTN4+34G	Screw (M4x34)	7	6	4
XTS3+10G	Screw (M3x10)	3	19	4
XTT4+10FFN	Screw (M4x10)	1	5	6
XTT4+10FFN	Screw (M4x10)	3	21	12
XTT4+8FFN	Screw (M4x8)	36	8	2
XTW3+8G	Screw (M3x8)	12	28	2
XTW4+14Q	Screw (M4x14)	35	33	3
XUB10VM	C Ring	18	43	2
XUB10VM	C Ring	21	43	2
XUC2VM	E Ring	20	24	1
XUC2VM	E Ring	28	26	1
XUC3VM	E Ring	27	35	1
XUC4VM	E Ring	5	40	1
XUC4VM	E Ring	18	46	1
XUC4VM	E Ring	20	23	2
XUC4VM	E Ring	21	46	2
XUC4VM	E Ring	24	12	1
XUC4VM	E Ring	25	31	1
XUC4VM	E Ring	31	29	2
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XUC5VM	E Ring	21	40	4
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XWE4BN	Washer	21	49	2
XWG3	Washer	17	1	1
XWG3	Washer	35	34	1
XWG6	Washer	5	26	1
XWG6	Washer	23	20	1
XXE3D8FP	Set Screw	14	15	1
XXE3D8FP	Set Screw	15	34	1
XXE3D8FP	Set Screw	16	13	1
XYN3+A8-B	Screw (M3x8)	15	35	3
XYN3+F6	Screw (M3x6)	10	17	4
XYN3+F6	Screw (M3x6)	12	23	2
XYN3+F6	Screw (M3x6)	13	45	4
XYN3+F6	Screw (M3x6)	16	16	1
XYN3+F6	Screw (M3x6)	18	41	2
XYN3+F6	Screw (M3x6)	21	41	2
XYN3+F6	Screw (M3x6)	22	19	2
XYN3+F8	Screw (M3x8)	5	43	7
XYN3+F8	Screw (M3x8)	11	33	1
XYN3+F8	Screw (M3x8)	19	41	4
XYN3+F8	Screw (M3x8)	20	19	2
XYN3+F8	Screw (M3x8)	25	28	2
XYN3+F8	Screw (M3x8)	35	28	2
XYN4+C8	Screw (M4x8)	29	18	10
XYN4+F10	Screw (M4x10)	5	44	3
XYN4+F12	Screw (M4x12)	13	46	4
XYN4+F16	Screw (M4x16)	18	42	4
XYN4+F16	Screw (M4x16)	21	42	4
XYN4+F8	Screw (M4x8)	31	28	4
XYN4+F8	Screw (M4x8)	32	33	7
XYN4+F8	Screw (M4x8)	33	29	2
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XYN4+F8	Screw (M4x8)	35	31	1
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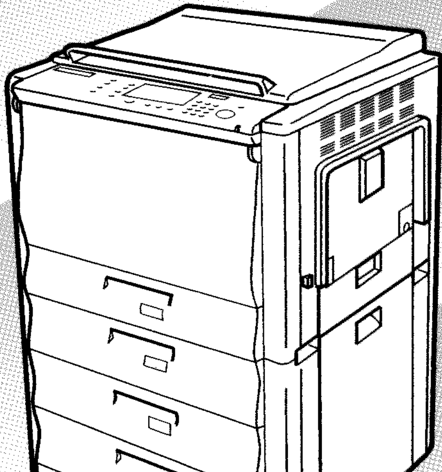
FP-2080



Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288,
Osaka 530-91, Japan

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Use and Ordering Information

1. Information contained in this Parts manual is subject to change. Change notices and supplementary pages will be issued on a timely basis.
2. Electrical parts supplied may include previously used components.
3. A Numerical Sales Number, Part Number List is located at the rear of this manual.
4. This manual was developed and is supplied to authorized servicing dealers by Panasonic Co. for the sole purpose of providing information necessary for the equipment's proper support. It is intended that this information be confidential and may not be reproduced without prior written consent from Panasonic Co.
5. Panasonic Co. reserves the right to change any information enclosed herein without prior notification.
   (This includes, but is not limited to, parts pricing and availability, and text.)
6. In common column, "C" indicates part is used in previous models, "N" indicates part is used only in Model FP-2080.
7. Important safety notice
   Components indentified by △ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
8. Rank column, "A, B, C, D," indicates the parts replacement frequency.
   - A: Most frequently used
   - B: Frequently used
   - C: Occasionally used
   - D: Hardly used

Covers
Frame
Optics
Developer Section
Corona
Paper Feed Section
Paper Transport Unit
Fuser Unit
Paper Exit Unit
250 Sheet Paper Tray
Sheet Bypass Tray
Electronics
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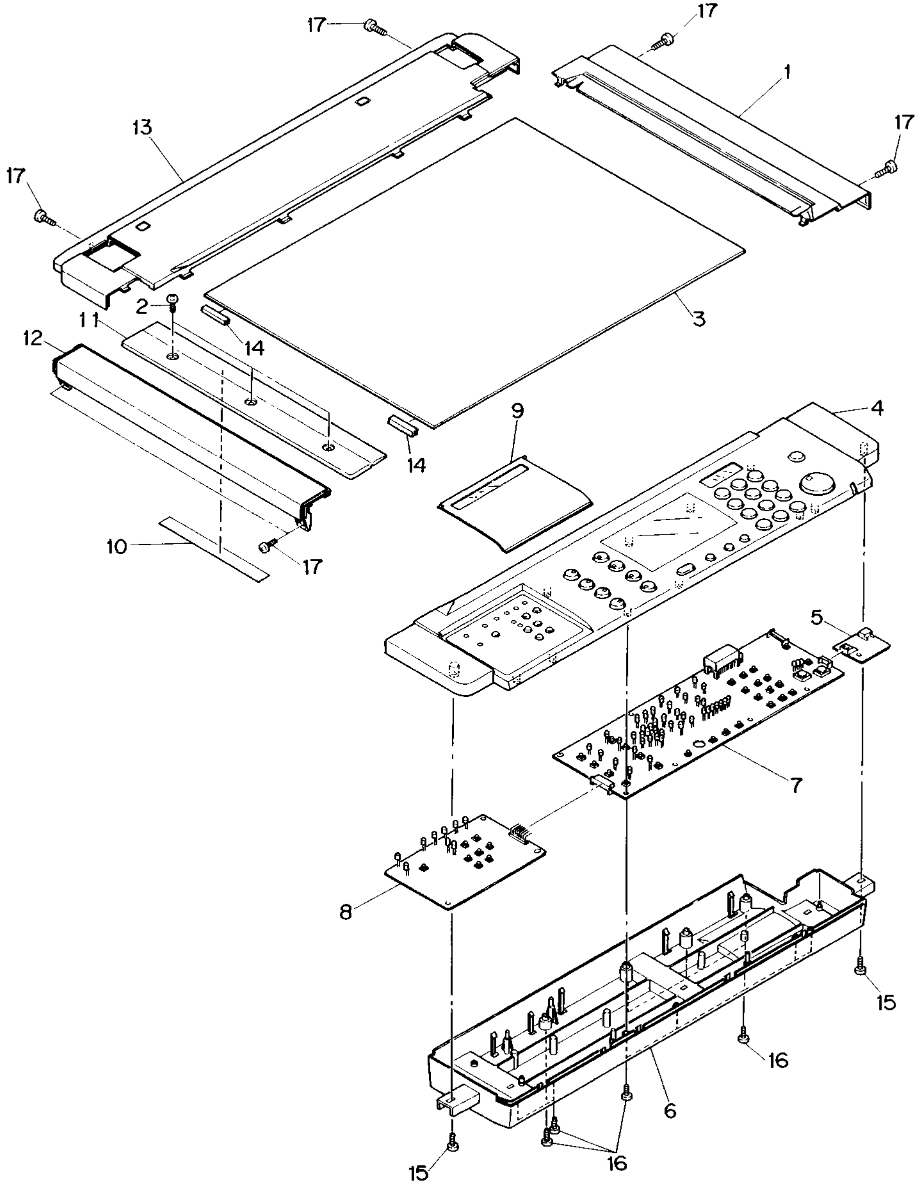
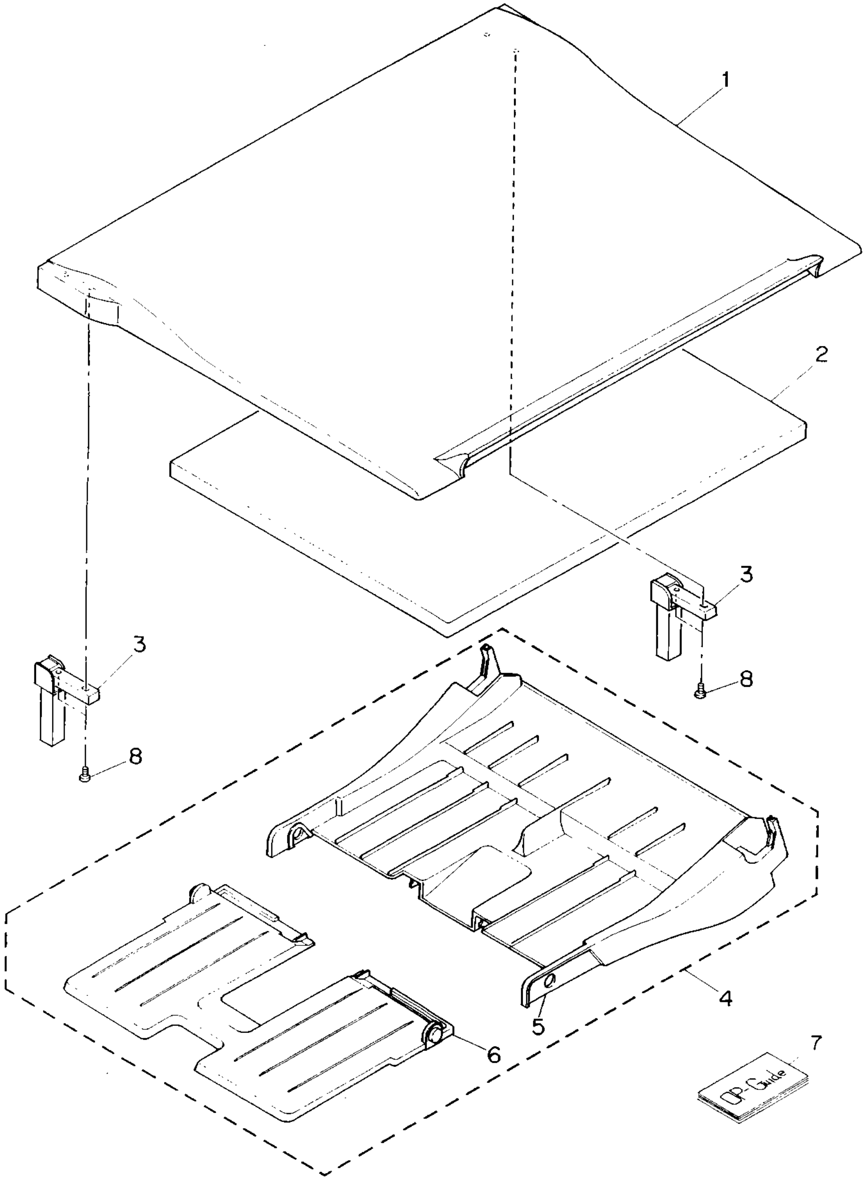
Kit
Numerical Parts Index



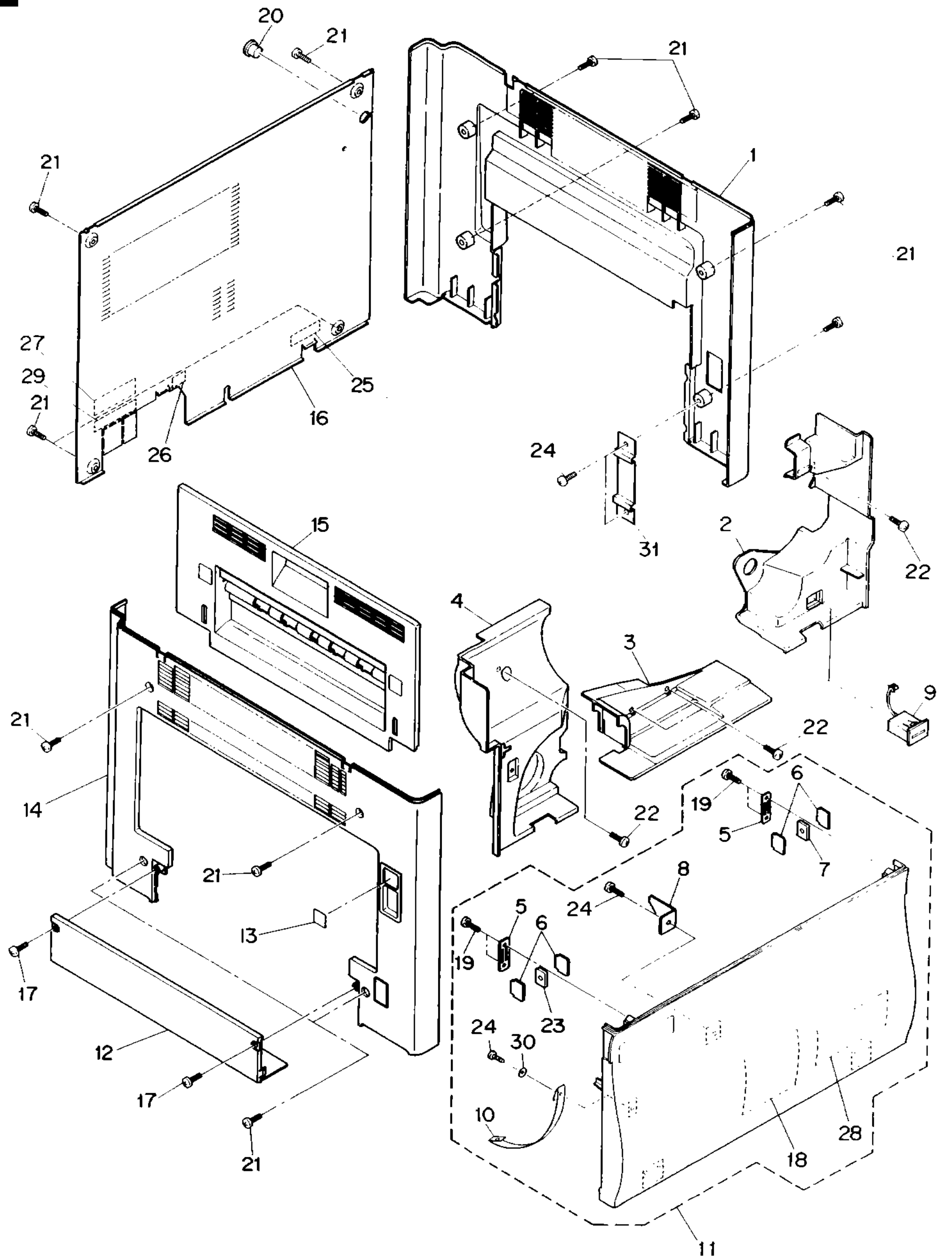
Control Panel

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXB10901	Top Cover, Right ⚠	1	C	D
2	XST4+6FN	Screw (M4x6)	3	C	D
3	FFPGC0154	Platen Glass	1	C	C
4	FFPXB04D23	Control Panel Ass'y ⚠	1	N	D
5	FFPWB0478	PCB Control Panel (3)	1	C	C
6	FFPNA04674	Lower Cover, Control Panel ⚠	1	C	D
7	FFPWB05061	PCB Control Panel (1)	1	C	C
8	FFPWB05075	PCB Control Panel (2)	1	N	C
9	FFPND00802	Panel Cover	1	C	D
10	FFPHK0717	Sensor Mark Sheet	1	C	D
11	FFPPA03482	Original Guide	1	C	D
12	FFPNA04641	Top Cover, Left	1	C	D
13	FFPNA04621	Top Cover, Rear	1	C	D
14	FFPKN0271	Cushion	2	C	B
15	XTB3+8G	Screw (M3x8)	2	C	D
16	XTB3+12G	Screw (M3x12)	10	C	D
17	XTT4+10FFN	Screw (M4x10)	6	C	D



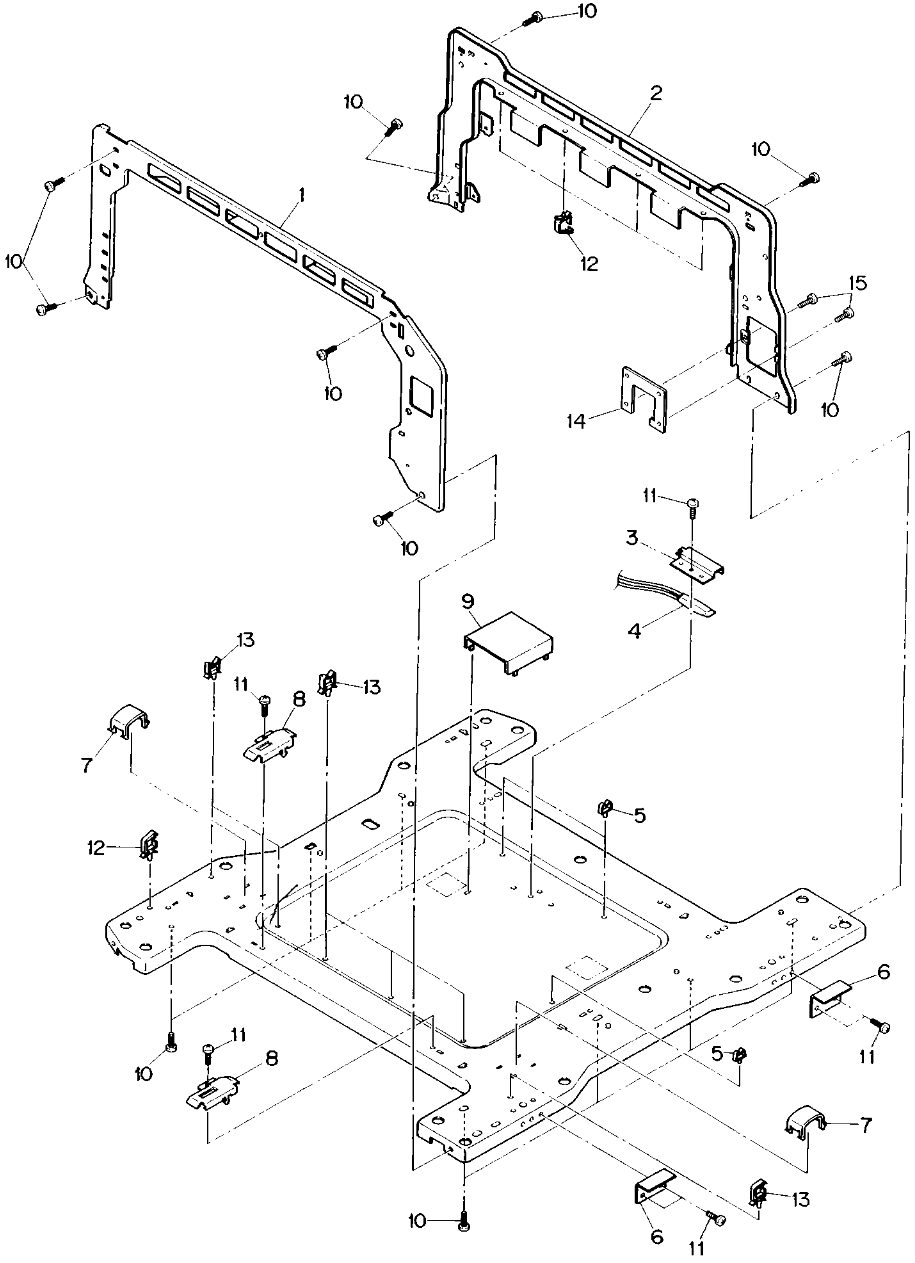
Platen Cover

Ref. No.	Part No.	Description	Q'ty Per Unit	Common	Rank
1	FFPNA04856	Platen Cover	1	C	D
2	FFPNN00333	Platen Rubber	1	C	D
3	FFPNH005011	Hinge	2	C	D
4	FFPXJ039001	Exit Tray Ass'y	1	C	C
5	FFPQA00924	Exit Tray (1)	1	C	C
6	FFPQB000702	Exit Tray (2)	1	C	C
7	FFPTD0638	Operating Guide, English ⚠	1	N	D
7	FFPTD0639	Operating Guide, German ⚠	1	N	D
7	FFPTD0640	Operating Guide, French ⚠	1	N	D
7	FFPTD0641	Operating Guide, Dutch ⚠	1	N	D
7	FFPTD0642	Operating Guide, Italian ⚠	1	N	D
7	FFPTD0643	Operating Guide, Spanish ⚠	1	N	D
7	FFPTD0644	Operating Guide, Swedish ⚠	1	N	D
8	XTN4+12F	Screw (M4x12)	4	C	D



Covers

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPNA04581	Right Cover ⚠	1	C	D
2	FFPKM01722	Inner Cover, Right ⚠	1	C	D
3	FFPKE0856	Inner Cover, Middle ⚠	1	C	D
4	FFPLL04001	Inner Cover, Left ⚠	1	C	D
5	FFPKF1104	Cover Plate	2	C	D
6	FFPKS0298	Magnet Yoke	4	C	D
7	FFPNG00221	Magnet	1	C	D
8	FFPKF09872	Bottle Stopper	1	C	D
9	FFPCV0008	Total Counter	1	C	D
10	FFPMJ0045	Door Stopper	1	C	D
11	FFPXB06D22	Front Cover Ass'y ⚠	1	N	D
12	FFPNA04691	Left Cover, Lower ⚠	1	C	D
13	FFPTE1554	Panel, Power Switch	1	C	D
14	FFPXB09903	Left Cover ⚠	1	C	D
15	FFPNA04701	Paper Exit Cover ⚠	1	C	D
16	FFPNA05491	Rear Cover ⚠	1	C	D
17	XSB4+10GFN	Screw (M4x10)	2	C	D
18	FFPTE1873	Label, Paper Jam	1	C	D
19	XTS3+10G	Screw (M3x10)	4	C	D
20	FFPDC0002	Plastic Cap	1	C	D
21	XTT4+10FFN	Screw (M4x10)	12	C	D
22	XTB4+8F	Screw (M4x8)	4	C	D
23	FFPNG00331	Magnet	1	C	D
24	XTB4+10G	Screw (M4x10)	4	C	D
25	FFPTE01661	Label, Warranty	1	C	D
26	FFPTE1516	Label, Cord Disconnect ⚠	1	C	D
27	FFPTE06161	Cution Label, For Nordic ⚠	1	C	D
27	FFPTE06971	Cution Label, For U.K./Australia ⚠	1	C	D
28	FFPTE1845	Label, Toner Replacement	1	C	D
29	FFPTE1515	Label, Over Current	1	C	D
30	XWG4	Washer	1	C	D
31	FFPKU0144	Reinforcement Plate	1	C	D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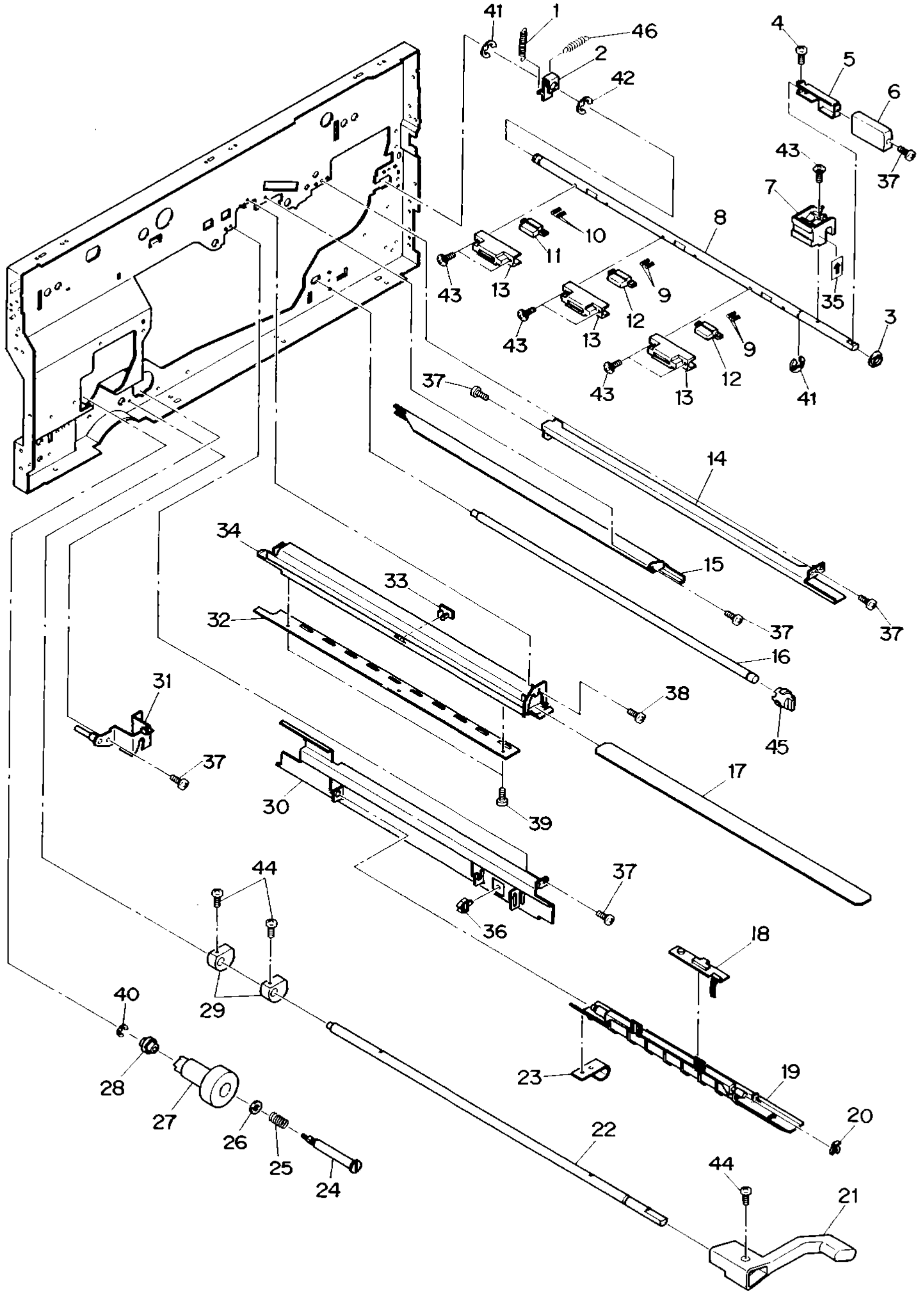
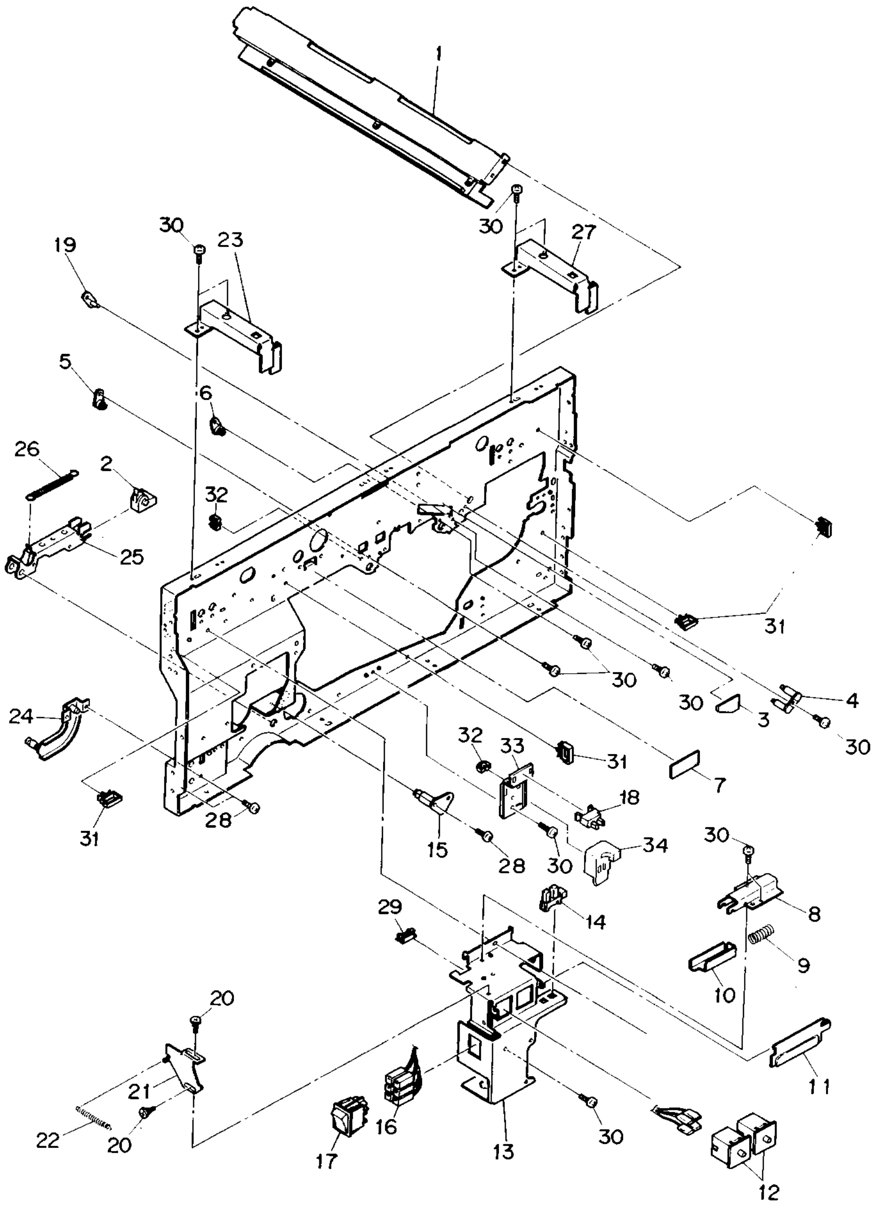
Frame, Bottom

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKU01301	Reinforcement Plate (L)	1	C	D
2	FFPKU01243	Reinforcement Plate (R)	1	C	D
3	FFPKD0779	Heater Holder	1	C	D
4	FFPCP0034	Heater, Dehumiditication ⚠	1	C	C
5	UAMS05S2	Clamp	3	C	D
6	FFPNH00511	Hinge, Front Cover	2	C	D
7	FFPKE07581	Harness Cover	2	C	D
8	FFPKE1107	Fuser Rail, Front	2	C	D
9	FFPKE0884	Heater Cover	1	C	D
10	XTB4+8F	Screw (M4x8)	16	C	D
11	XTB3+6F	Screw (M3x6)	7	C	D
12	LWS1S	Locking Wire Saddle	5	C	D
13	LWS2NS	Locking Wire Saddle	6	C	D
14	FFPKS0190	Plate, Key Counter	1	C	D
15	XSS3+8	Screw (M3x8)	2	C	D



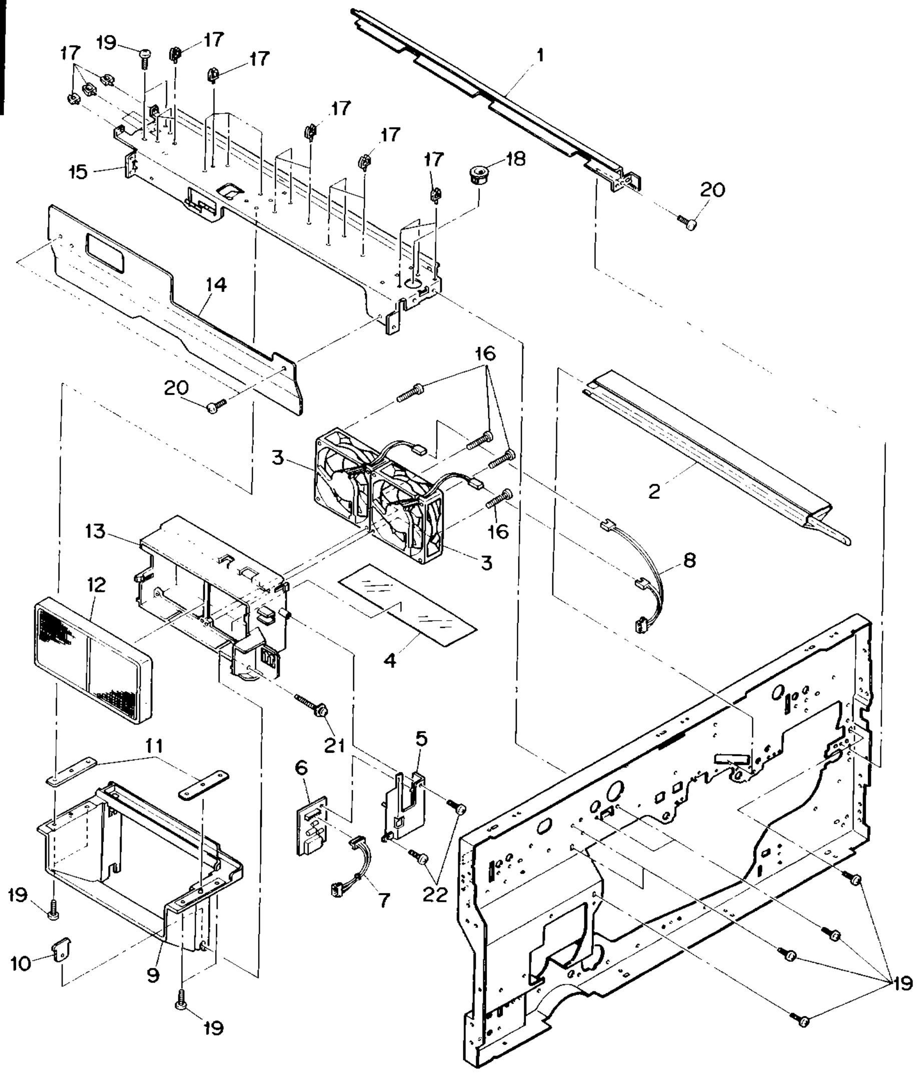
Frame, Front

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPLP0730	Pressure Spring, Developer	1	C	B
2	FFPLL0401	Pressure Lever, Developer	1	C	D
3	FFPMQ0371	Bushing	1	C	B
4	FFPFA0113	Screw, Developer Lever	1	C	D
5	FFPLL04291	Bracket, Developer Knob	1	C	D
6	FFPKM0171	Developer Knob	1	C	C
7	FFPKF09363	Cam (1)	1	C	C
8	FFPLG09501	Shaft	1	C	D
9	FFPLP0729	Spring (1)	4	C	B
10	FFPLP0731	Spring (2)	2	C	B
11	FFPLJ0086	Cam (2)	1	C	C
12	FFPLJ0081	Cam (3)	2	C	C
13	FFPKQ0064	Cam Base	3	C	D
14	FFPKF0932	Developer Rail, Left	1	C	D
15	FFPKF09311	Drum Rail, Right	1	C	D
16	FFPLG1254	Shaft, Paper Feed	1	C	D
17	FFPGB00171	Lamp Filter	1	C	C
18	FFPWB0518	PCB Auto Original Density	1	C	C
19	FFPKQ0108	Base PCB Mounting	1	C	D
20	FFPFJ0033	Snap Ring	1	C	D
21	FFPLA0078	Transport Lever	1	C	D
22	FFPLG0980	Lifting Shaft	1	C	D
23	FFPLQ0280	Spring Plate	1	C	B
24	FFPFA0109	Shoulder Screw	1	C	D
25	FFPLP0742	Knob Spring	1	C	B
26	XWG6	Washer	1	C	D
27	FFPLA00791	Knob	1	C	C
28	FFPHQ0034	Roller Coupling	1	C	B
29	FFPLJ00851	Lift Cam	2	C	C
30	FFPKF0928	Rail, Drum Unit L	1	C	D
31	FFPXA51900	Fulcrum Plate, Lever	1	C	D
32	PQ24V10W	Discharge Lamp	1	C	A
33	FFPKH0212	Glass Spacer	1	C	C
34	FFPKD0744	Lamp Holder, Discharge	1	C	D
35	FFPTE1585	Label, Direction	1	C	D
36	UAMS05S2	Clamp	1	C	D
37	XTB3+6F	Screw (M3x6)	6	C	D
38	XTB3+8F	Screw (M3x8)	1	C	D
39	XTB3+8G	Screw (M3x8)	2	C	D
40	XUC4VM	E Ring	1	C	D
41	XUC8VM	E Ring	2	C	D
42	XUC9VM	E Ring	1	C	D
43	XYN3+F8	Screw (M3x8)	7	C	D
44	XYN4+F10	Screw (M4x10)	3	C	D
45	FFPMQ0450	Bushing	1	C	D
46	FFPLP0721	Pressure Spring	1	C	D



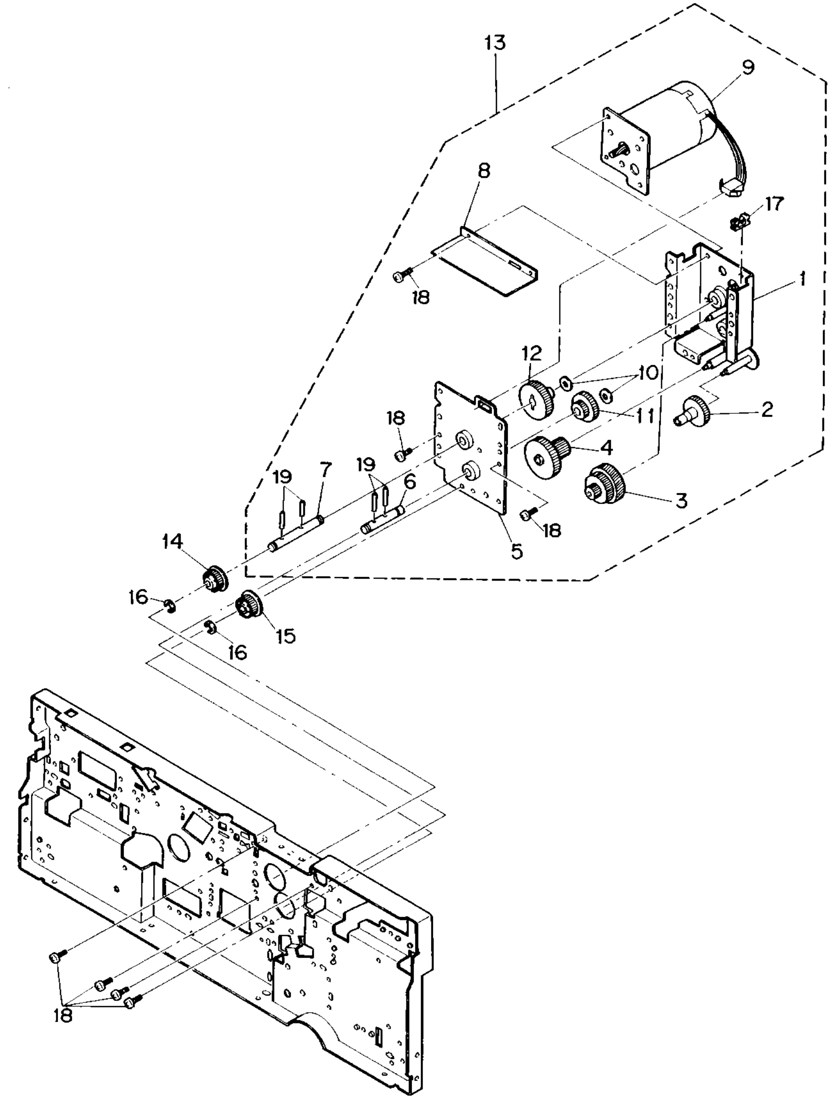
Frame, Front

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXA57900	PCB LED Array	1	C	A
2	FFPLK02281	Front Arm	1	C	D
3	FFPHK0661	Slide Sheet (1)	1	C	D
4	FFPKD0746	LED Holder	1	C	D
5	FFPXA36900	Support Pin, Drum	1	C	D
6	FFPXA38900	Support Pin, Drum	1	C	D
7	FFPHK0662	Slide Sheet (2)	1	C	D
8	FFPKF09851	Stopper Rail	1	C	D
9	FFPLP0783	Spring, Stopper Rail	1	C	B
10	FFPKF09841	Stopper (2)	1	C	D
11	FFPLL03991	Switch Lever	1	C	D
12	F921-A14L	Door Switch ⚠	2	C	B
13	FFPKR13675	Bracket, Door Switch	1	C	D
14	GP1A71A1	Sensor, Front Door	1	C	B
15	FFPXA54900	Fulcrum Pin, Transport	1	C	D
16	FFPWC1385	AJ Harness ⚠	1	N	D
17	SIG8226-1BB	Power Switch ⚠	1	C	B
18	EESX461P4	Sensor, Waste Toner	1	C	B
19	FFPXA37900	Support Pin, Developer	1	C	D
20	FFPFA0072	Shoulder Screw	2	C	D
21	FFPKF0983	Stopper (1)	1	C	D
22	FFPLP0784	Stopper Spring	1	C	B
23	FFPKR1481	Bracket 3, Control Panel	1	C	D
24	FFPXA019501	Fulcrum Bracket, Front	1	C	D
25	FFPLL04061	Lever	1	C	D
26	FFPLP07391	Lift Spring	1	C	B
27	FFPKR14221	Bracket 1, Control Panel	1	C	D
28	XTB4+8F	Screw (M4x8)	3	C	D
29	EDS2	Edge Saddle	1	C	D
30	XTB3+6F	Screw (M3x6)	12	C	D
31	LWS1S	Locking Wire Saddle	4	C	D
32	UAMS05S2	Clamp	2	C	D
33	FFPKR15001	Bracket, Sensor Mounting	1	C	D
34	FFPKE08572	Sensor Cover	1	C	D



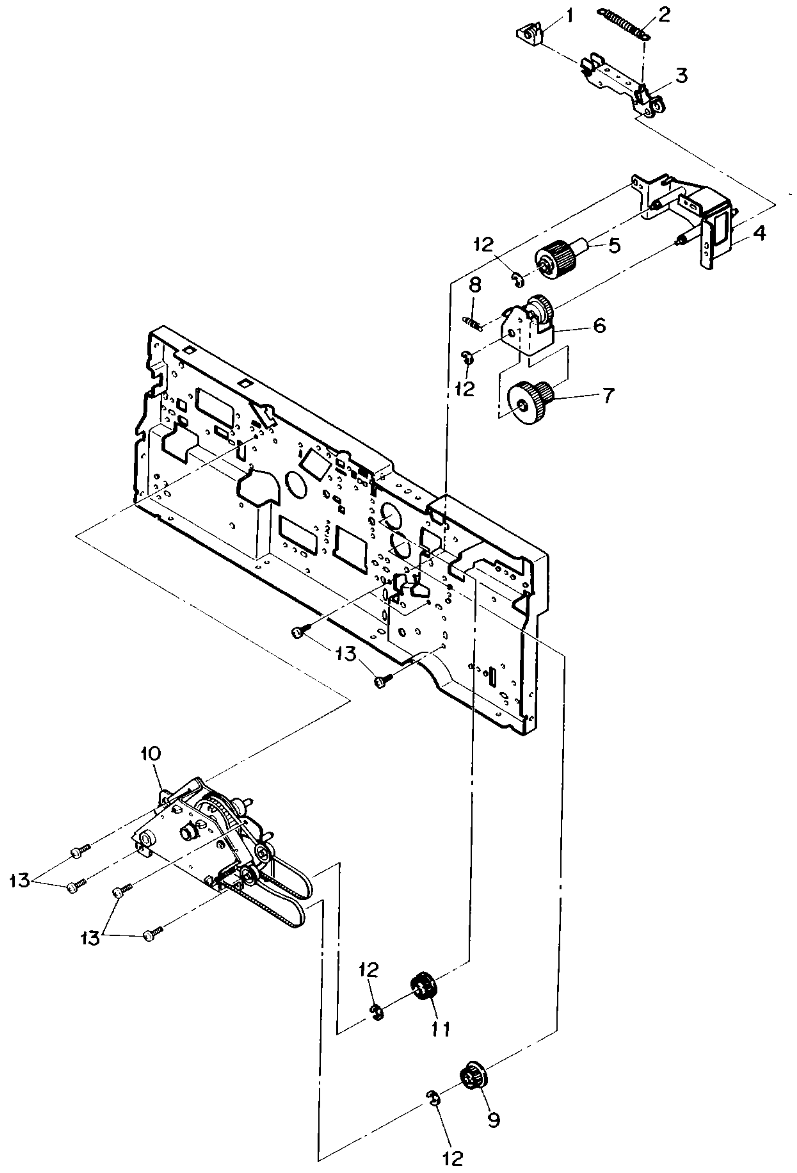
Frame, Front

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKF0933	Rail, Developer R	1	C	C
2	FFPXA63A42	Slit Glass	1	C	C
3	SO8C24DURC1	Exhaust Fan	2	C	C
4	FFPHK0860	Fan Sheet	1	C	C
5	FFPKE0943	PCB Cover	1	C	D
6	EYHH02NUE	PCB TH Sensor	1	C	C
7	FFPWC1460	TH Harness	1	C	D
8	FFPWC1455	EF Harness	1	C	D
9	FFPHA0063	Duct	1	C	D
10	FFPKS0962	Spacer	1	C	D
11	FFPKN0319	Rubber Plate	2	C	C
12	FFPHJ0033	Ozone Filter	1	C	A
13	FFPXA40B40	Fan Holder w/Mylar	1	C	D
14	FFPKS0961	Separation Plate	1	C	D
15	FFPKD11111	Duct Stay	1	C	D
16	XTN4+34G	Screw (M4x34)	4	C	D
17	UAMS05S2	Clamp	21	C	D
18	TB1520	Busning	1	C	D
19	XTB4+8F	Screw (M4x8)	12	C	D
20	XTB3+6F	Screw (M3x6)	3	C	D
21	SYN4+F12	Screw (M4x12)	1	C	D
22	XTB3+8G	Screw (M3x8)	2	C	D



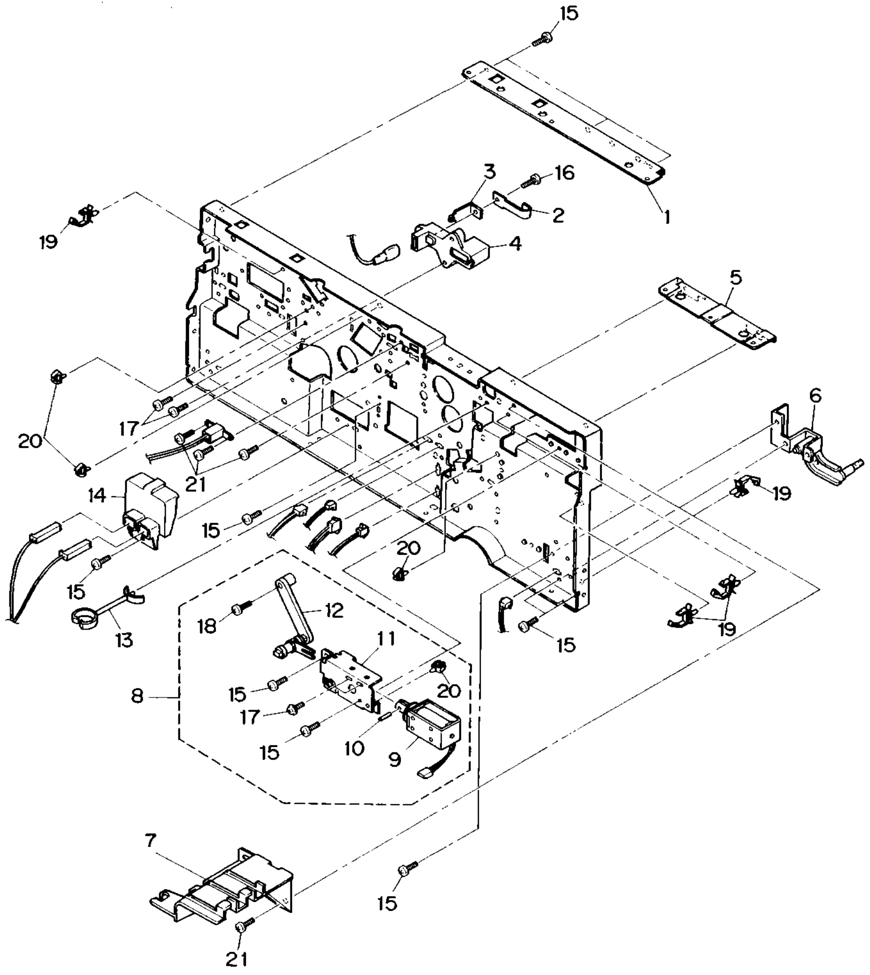
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXA039001	Rear Frame, Speed Reduction	1	C	D
2	FFPMF0683	Drive Gear, Transfer	1	C	D
3	FFPMF0793	Gear 1, Speed Reduction	1	C	D
4	FFPMF0682	Drive Gear, Fuser	1	C	D
5	FFPXA069001	Front Frame, Speed Reduction	1	C	D
6	FFPLG09443	Drive Shaft 2	1	C	D
7	FFPLG09432	Drive Shaft 1	1	C	D
8	FFPKE0760	Gear Cover	1	C	D
9	PVX24C4LA	Main Motor	1	C	D
10	FFPMV0037	Polyslider	2	C	D
11	FFPMF06811	Drive Gear 2	1	C	D
12	FFPMF0680	Drive Gear 1	1	C	D
13	FFPXA08B501	Main Motor Ass'y	1	C	C
14	FFPMB01391	Motor Pulley 1	1	C	D
15	FFPMB0140	Motor Pulley 2	1	C	D
16	XUC7VM	E Ring	2	C	D
17	EDS2	Edge Saddle	1	C	D
18	XTB4+8F	Screw (M4x8)	7	C	D
19	XPJ2D16WV	Pin	4	C	D



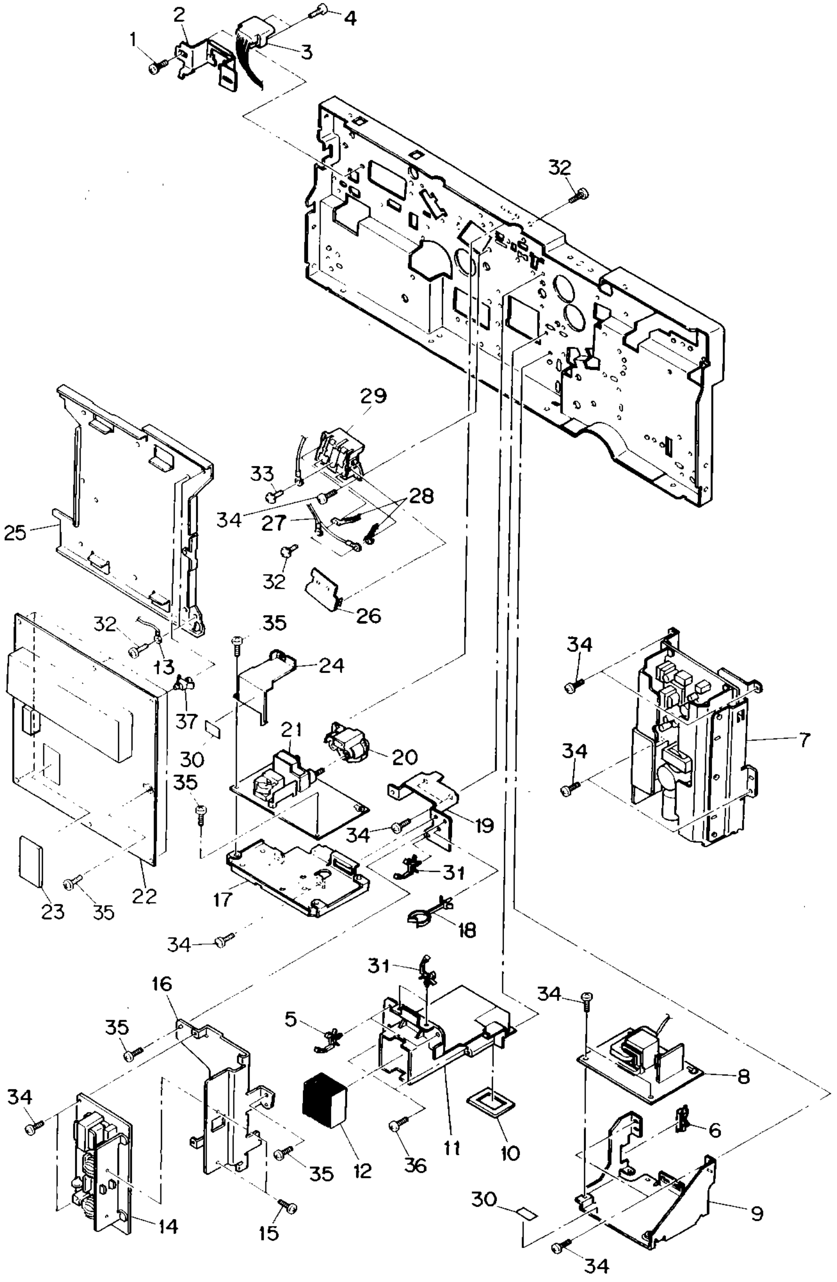
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPLK02291	Front Arm	1	C	D
2	FFPLP07391	Lift Spring	1	C	B
3	FFPLL04061	Lever	1	C	D
4	FFPXA10B50	Slide Bracket, Fuser Drive	1	C	D
5	FFPMF0822	Drive Gear	1	C	C
6	FFPXA09900	Gear Unit, Fuser Drive	1	C	C
7	FFPMF0682	Gear, Fuser Drive	1	C	C
8	FFPLP07281	Spring	1	C	B
9	FFPMB0140	Motor Pulley 2	2	C	D
10	FFPXA27B501	Drive Block Ass'y	1	C	C
11	FFPMB01391	Motor Pulley 1	1	C	D
12	XUC7VM	E Ring	4	C	D
13	XTB4+8K	Screw (M4x8)	6	C	D



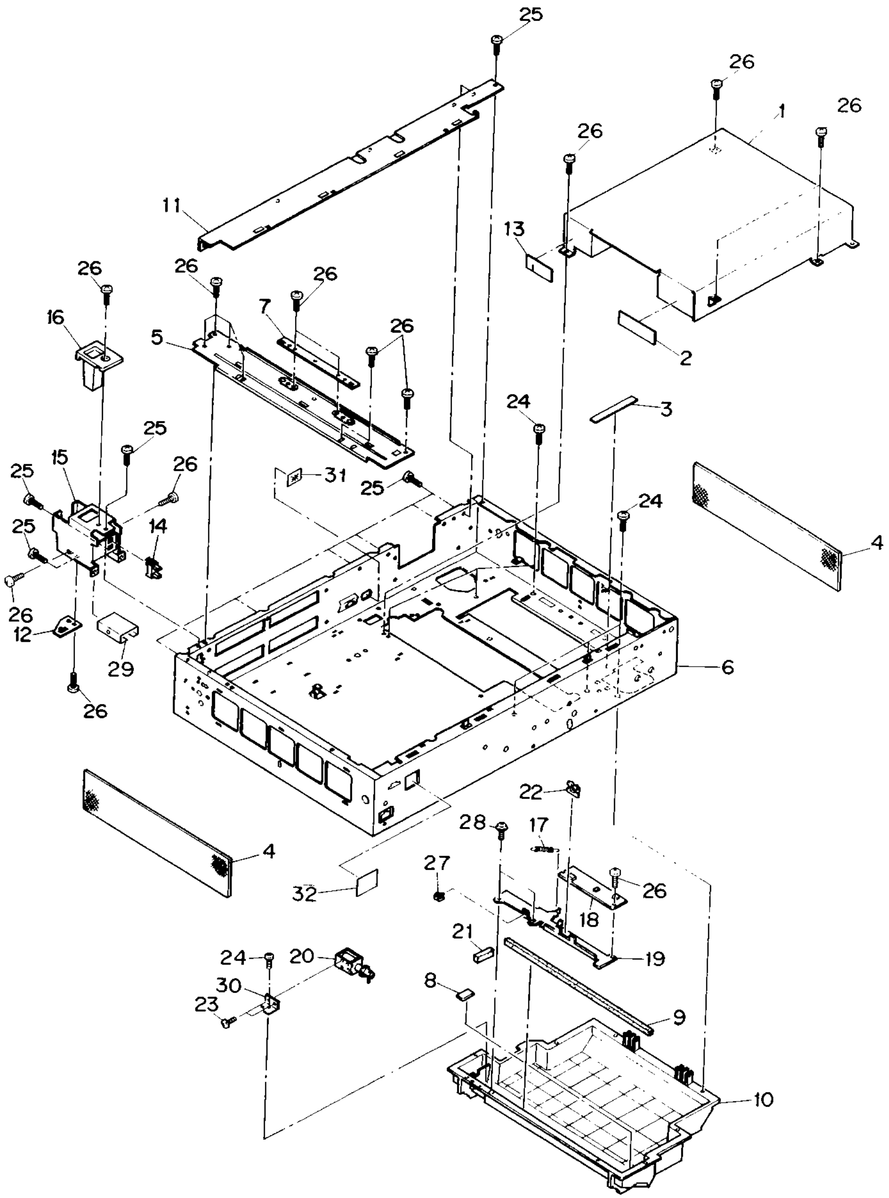
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKS06522	Positioning Plate, Optics L	1	C	D
2	FFPDK01872	Bias Lead (2)	1	C	C
3	FFPDF0209	Bias AC Lead	1	C	C
4	FFPDE00372	Bias Terminal	1	C	C
5	FFPKS0655	Positioning Plate, Optics S	1	C	D
6	FFPXA139502	Fulcrum Bracket, Rear	1	C	D
7	FFPKE08662	SW Power Cover	1	C	D
8	FFPXA16900	Solenoid Ass'y, Cleaning Web	1	C	D
9	FFPEQ0062	Solenoid, Cleaning Web	1	C	D
10	XPL3A12WV	Spring Pin	1	C	D
11	FFPKR1409	Solenoid Bracket	1	C	D
12	FFPLL04101	Lever 2	1	C	D
13	HL38-0	Harness Lifter	1	C	D
14	FFPDA00271	T-DT Socket	1	C	C
15	XTB4+8F	Screw (M4x8)	10	C	D
16	XTB3+8G	Screw (M3x8)	1	C	D
17	XYN3+F6	Screw (M3x6)	4	C	D
18	XTB4+8G	Screw (M4x8)	1	C	D
19	LWS1S	Locking Wire Saddle	4	C	D
20	UAMS05S2	Clamp	4	C	D
21	XTB3+8F	Screw (M3x8)	4	C	D



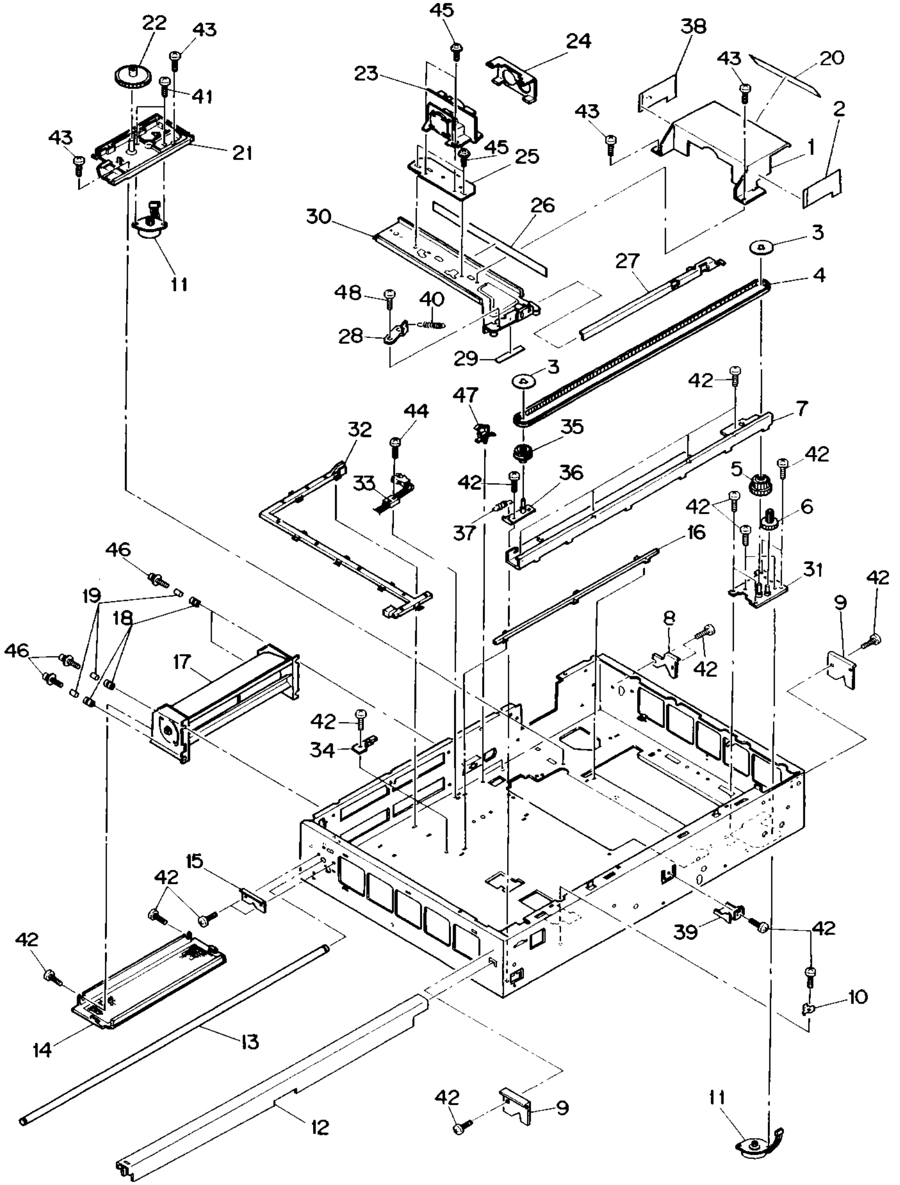
Frame, Rear

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPFA0072	Shoulder Screw	1	C	D
2	FFPKD0745	Connector Bracket	1	C	D
3	FFPWC1452	CN Harness	1	C	D
4	FFPFA0114	Shoulder Screw	2	C	D
5	LWS2NA	Locking Wire Saddle	2	C	D
6	EDS2	Edge Saddle	1	C	D
7	FFPWB052721	PCB LVPS	1	C	C
7	FFPWB05275	PCB LVPS (or) ⚠	1	C	C
8	EUKSBN409HB	PCB HVPS (2) ⚠	1	C	C
9	FFPKR13711	Bracket HVPS Mounting	1	C	D
10	FFPKN0251	Duct Sela	1	C	B
11	FFPHA00472	Duct ⚠	1	C	D
12	FFPHJ0032	Filter	1	C	A
13	FFPWC1411	Ground Lead	1	C	D
14	FFPWB05332	PCB AC Driver	1	C	C
14	FFPWB05333	PCB AC Driver, For Nordic	1	C	C
15	XTB3+8J	Screw (M3x8)	2	C	D
16	FFPKR1572	Bracket, AC Driver	1	C	D
17	FFPKR13701	Bradket 1, High Voltage	1	C	D
18	HL18-0	Harness Lifter	1	C	D
19	FFPKU01121	Support Bracket, High Voltage ⚠	1	C	D
20	FFPDA00253	Socket, High Voltage ⚠	1	C	C
21	EUKMBN410HA	PCB HVPS (1)	1	C	C
22	FFPWB05433	PCB CPU W/O P-Rom	1	N	C
23	FFPAH0167M	P-Rom	1	N	C
24	FFPKE08252	Cover HVPS ⚠	1	D	C
25	FFPKR14991	Plate, CPU Mounting	1	C	D
26	FFPJA02271	Lid, Corona Lead	1	C	C
27	FFPWC1203	HV Harness 1 ⚠	1	C	D
28	FFPDF0210	Corona Lead	2	C	C
29	FFPDE0035	Corona Terminal	1	C	C
30	FFPTE1621	Caution Label, High Voltage ⚠	2	C	D
31	LWS1S	Locking Wire Saddle	3	C	D
32	XTB3+8G	Screw (M3x8)	5	C	D
33	XYN3+F8	Screw (M3x8)	1	C	D
34	XTB3+8F	Screw (M3x8)	16	C	D
35	XTB3+6F	Screw (M3x6)	5	C	D
36	XTB4+8F	Screw (M4x8)	2	C	D
37	KGLS3S	Locking Spacer	6	C	D



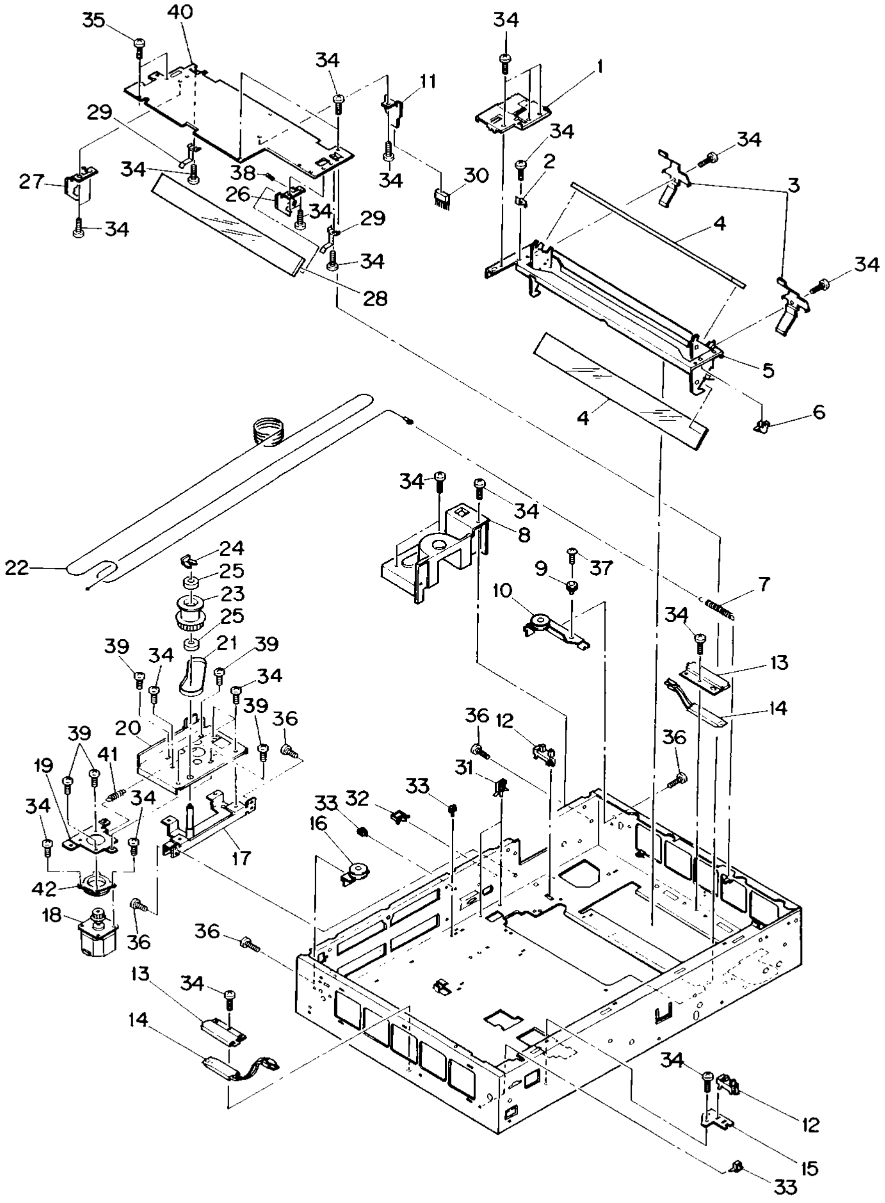
Optics Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0892	Optics Cover	1	C	D
2	FFPJC0189	Insulation Sheet A	1	C	C
3	FFPHK0634	Slide Sheet	1	C	C
4	FFPGB00201	Filter, Anti-Dust	2	C	A
5	FFPKR1387	Support, Glass Holder	1	C	D
6	FFPKB06804	Optics Frame	1	C	D
7	FFPKS0669	Adjusting Plate	1	C	D
8	FFPKP0054	Felt	1	C	B
9	FFPKN0274	Sponge Seal	1	C	B
10	FFPKE08931	Lower Cover	1	C	D
11	FFPKD07742	Glass Support, Rear	1	C	D
12	FFPKR14751	Holder, ADF Connector	1	C	D
13	FFPJC01971	Insulation Sheet D	1	C	C
14	GP3A57A1	Optics Sensor	1	C	B
15	FFPKR13891	ADF Bracket	1	C	D
16	FFPLT0090	Sleeve	1	C	C
17	FFPLP07381	AE Spring	1	C	B
18	FFPWB0471	PCB Copy Density	1	C	C
19	FFPLL05011	AE Lever	1	C	D
20	FFPXK03900	AE Solenoid	1	C	D
21	FFPKN0275	Sponge Seal	1	C	B
22	EDS2	Edge Saddle	1	C	D
23	XYN3+F6	Screw (M3x6)	2	C	D
24	XTB3+8G	Screw (M3x8)	7	C	D
25	XTB4+6F	Screw (M4x6)	10	C	D
26	XTB3+6F	Screw (M3x6)	15	C	D
27	UAMS05S2	Clamp	1	C	D
28	XTW3+8G	Screw (M3x8)	2	C	D
29	FFPKU01132	Reinforcement Bracket	1	C	D
30	FFPKR1580	Bracket, S0 Mounting	1	C	D
31	FFPPJ01461	Cover Sheet	1	C	D
32	FFPPJ0141	Cover sheet	1	C	D



Optics Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0894	Lens Cover	1	C	D
2	FFPJC0203	Insulation Seal C	1	C	C
3	FFPKQ0074	Flange	2	C	D
4	FFPMN0082	Belt	1	C	C
5	FFPMB0137	Pulley (1)	1	C	D
6	FFPMF0675	Idle Gear, Lens	1	C	C
7	FFPKF11282	Rail, Lens Frame	1	C	D
8	FFPKD0775	Support, Slide Shaft	1	C	D
9	FFPKD1230	Support, Guide Shaft	2	C	D
10	FFPKD07771	Support	1	C	D
11	42SPM24DCYE	Stepping Motor	2	C	C
12	FFPKF1207	Guide Shaft, Optics	1	C	D
13	FFPLG0961	Slide Shaft	1	C	D
14	FFPXK27950	Ozone Filter	1	C	D
15	FFPKD0711	Support, Slide Shaft	1	C	A
16	FFPKF0940	Lens Rail	1	C	D
17	FS04519BS	Optics Fan	1	C	C
18	FFPKN0256	Rubber A, Anti-Vibration	4	C	B
19	FFPLT0088	Rubber Sleeve, Anti-Vibration	4	C	B
20	FFPHK0808	Insulation Sheet	1	C	C
21	FFPKB0696	Frame, 4/5 Mirror Drive	1	C	D
22	FFPMF0676	Idle Gear	1	C	C
23	FFPGA0042	Lens	1	C	D
24	FFPJC01871	Slit, Supplementary	1	C	C
25	FFPKS06711	Adjusting Plate, Lens	1	C	D
26	FFPJC01951	Insulation Sheet B	1	C	C
27	FFPKS08951	Plate, Lens Positioning	1	C	D
28	FFPKS0896	Lift Lever	1	C	D
29	FFPHK0807	Slide Sheet	1	C	C
30	FFPKB08161	Lens Frame	1	C	D
31	FFPKB0818	Bracket, Pulley Mounting	1	C	D
32	FFPKE0770	Harness Cover	1	C	D
33	FFPKD0773	Harness Holder	1	C	D
34	FFPKD0778	Metal Plate (2)	1	C	D
35	FFPMB0138	Pulley (2)	1	C	D
36	FFPKR1576	Plate, Pulley Mounting	1	C	D
37	FFPLP0857	Tension Spring	1	C	B
38	FFPJC0204	Insulation Sheet E	1	C	C
39	FFPKR1383	Bracket, Optics Cover	1	C	D
40	FFPLP0856	Tension Spring	1	C	B
41	XSB3+6	Screw (M3x6)	2	C	D
42	XTB3+6F	Screw (M3x6)	22	C	D
43	XTB3+6FFZ	Screw (M3x6)	5	C	D
44	XTB3+8F	Screw (M3x8)	1	C	D
45	XYN3+F6	Screw (M3x6)	4	C	D
46	XYN4+F12	Screw (M4x12)	4	C	D
47	LWS1NA	Locking Wire Saddle	2	C	D
48	FFPFA0121	Shoulder Screw	1	C	D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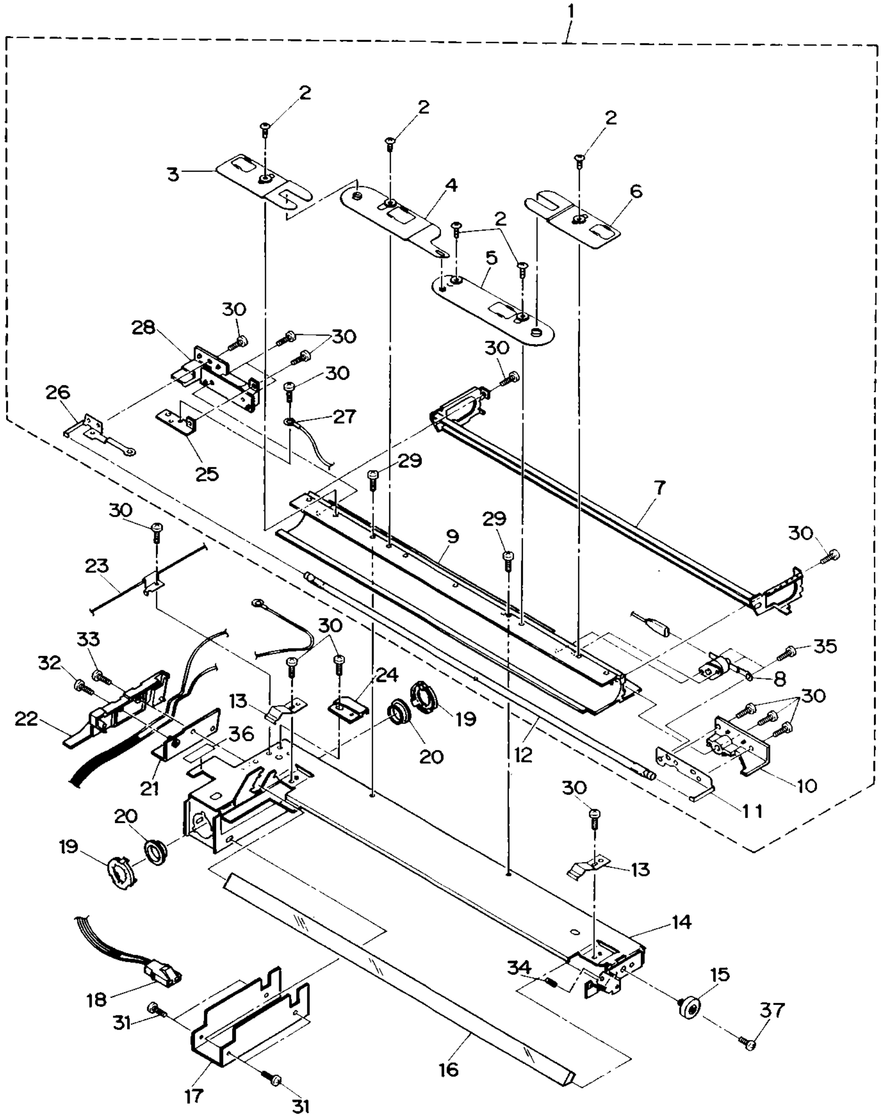
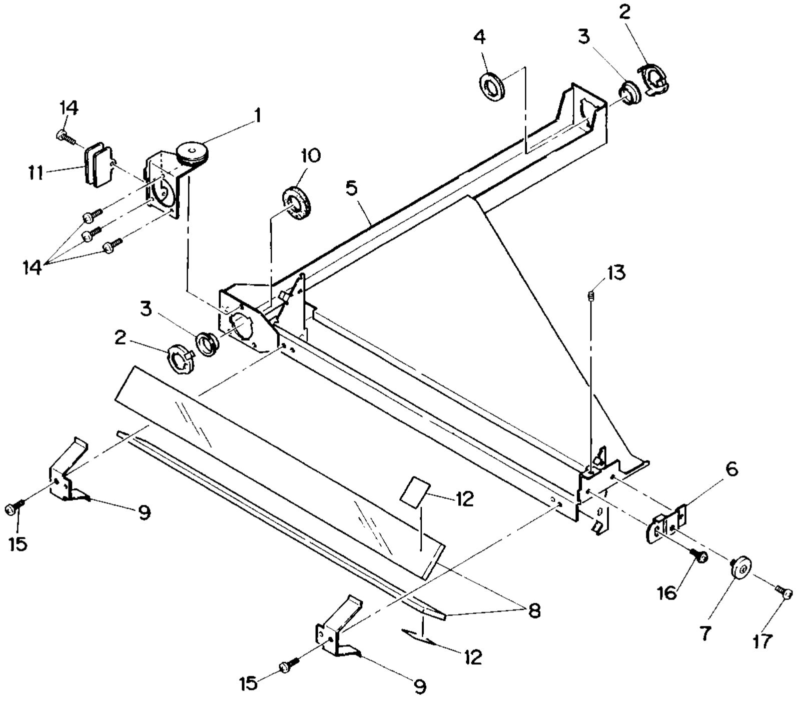
Optics Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPMF07034	Rack	1	C	C
2	FFPKD07771	Support	1	C	D
3	FFPLQ0268	Spring, 4/5 Mirror Support	2	C	B
4	FFPGC0162	4/5 Mirror	2	C	D
5	FFPKB06954	Frame, 4/5 Mirror	1	C	D
6	FFPKM0169	Slider	1	C	C
7	FFPLP0821	Tension Spring	1	C	B
8	FFPKE07711	Cover	1	C	D
9	FFPMB0171	Pulley B	1	C	D
10	FFPXK229001	Pulley D with Bracket	1	C	D
11	FFPKR1575	Bracket, Brush	1	C	D
12	GP1A71A1	Sensor, Reduction/Enlargement	2	C	B
13	FFPKD0779	Heater Holder	2	C	D
14	FFPCP0035	Heater, Dehumidification	2	C	C
15	FFPKR1428	Sensor Base, Lens	1	C	D
16	FFPXK20900	Pulley E	1	C	D
17	FFPXK23D21	Motor Bracket	1	N	D
18	FFPXK31D21	Stepping Motor, Optics	1	C	C
19	FFPKR1650	Sub-plate, Motor	1	N	D
20	FFPKR1649	Motor Frame	1	C	D
21	FFPMN0081	Belt	1	C	D
22	FFPMW0045	Drive Cable	1	C	B
23	FFPMD0025	Cable Drum	1	N	D
24	FFPFJ0033	Snap Ring	1	C	D
25	FFPMQ0430	Bearing	2	C	D
26	FFPKB0814	Front Frame	1	C	D
27	FFPKB0815	Rear Frame	1	C	D
28	FFPGC0163	No.6 Mirror	1	C	D
29	FFPLQ0330	Spring, Mirror Support	1	C	B
30	FFPJG0001	Cleaning Brush	1	C	B
31	LWS1NA	Locking Wire Saddle	2	C	D
32	LWS2NA	Locking Wire Saddle	1	C	D
33	UAMS05S2	Clamp	5	C	D
34	XTB3+6F	Screw (M3x6)	24	C	D
35	XTB3+6FFZ	Screw (M3x6)	2	C	D
36	XTB4+6F	Screw (M4x6)	5	C	D
37	XTB4+8F	Screw (M4x8)	1	C	D
38	XXE3D8FP	Set Screw	1	C	D
39	XYN3+F6	Screw (M3x6)	5	C	D
40	FFPKR1574	Mirror Bracket	1	C	D
41	FFPLP0931	Tension Spring	1	N	C
42	FFPHL0012	Dumper	1	N	D



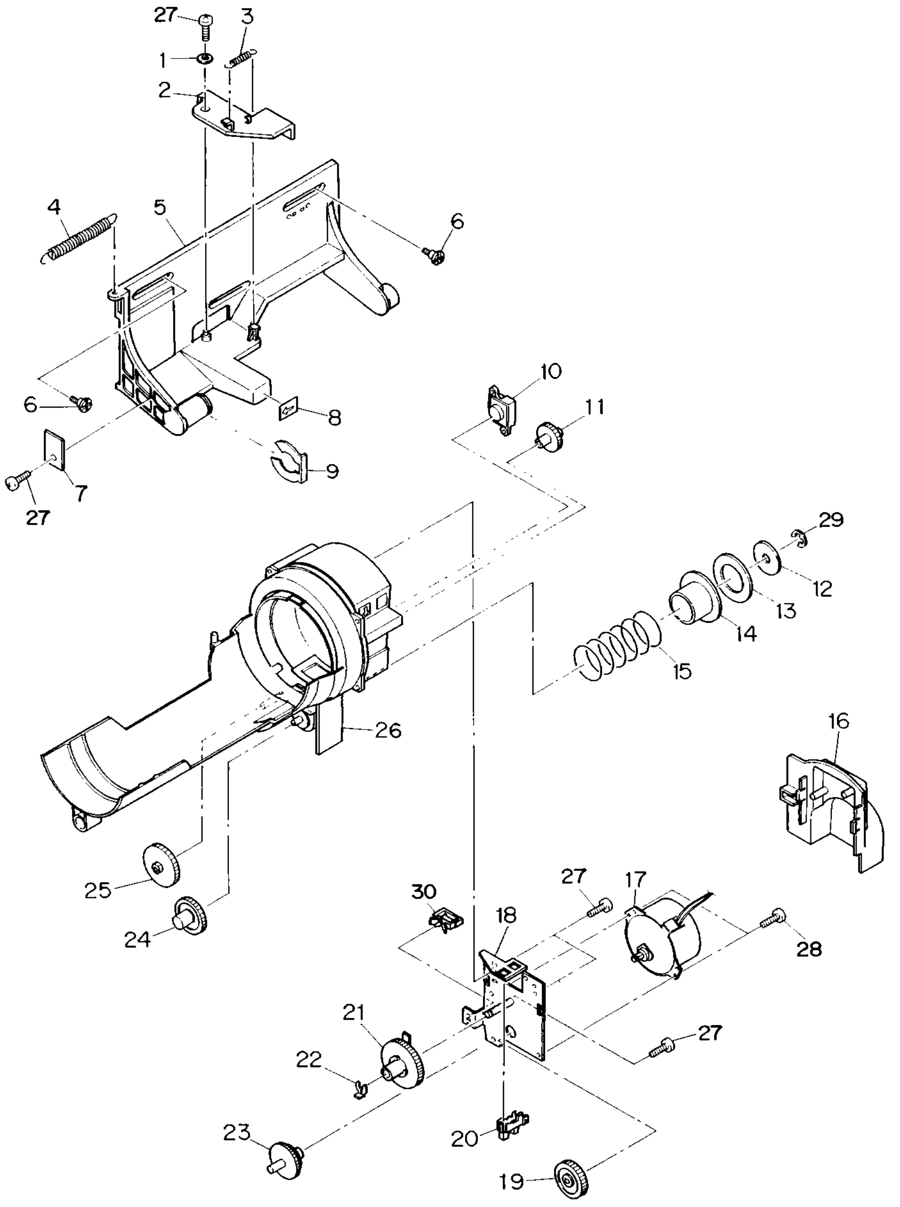
Optics, Exposure Lamp Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXK17B43	Exposure Lamp Unit	1	C	A
2	FFPFA0111	Screw, Slit Plate	5	C	D
3	FFPJC0191	Adjust Plate, Optics	1	C	D
4	FFPJC0194	Adjust Plate, Optics	1	C	D
5	FFPJC0192	Adjust Plate, Optics	1	C	D
6	FFPJC0193	Adjust Plate, Optics	1	C	D
7	FFPXK33B40	Sub Reflector	1	C	D
8	FFPXK15900	Thermostat ⚠	1	C	D
9	FFPGC0170	Main Reflector	1	C	D
10	FFPKD0781	Lamp Bracket, Front	1	C	D
11	FFPKD07831	Lamp Terminal, Front	1	C	D
12	JK16V025WF67	Exposure Lamp ⚠	1	C	A
12	E16V025WN2A	Exposure Lamp (or) ⚠	1	C	A
13	FFPLQ0267	Spring, No.1 Mirror	2	C	B
14	FFPKB06852	Lamp Frame	1	C	D
15	FFPMA0510	Guide Roller	1	N	B
16	FFPGC0160	No.1 Mirror	1	C	D
17	FFPKU0116	Support Plate, Carriage	1	C	D
18	FFPWC1202	LP Harness ⚠	1	C	D
19	FFPKD0785	Bushing Support	2	C	D
20	FFPMQ0357	Bushing	2	C	B
21	FFPKF0943	Harness Guide 2	1	C	D
22	FFPKF0944	Harness Guide 3	1	C	D
23	FFPMW00451	Drive Cable	1	C	B
24	FFPKF0942	Harness Guide 1	1	C	D
25	FFPKD0992	Round-edge Holder	1	C	D
26	FFPKD07842	Lamp Terminal	1	C	D
27	FFPWC1244	LP Harness 2	1	C	D
28	FFPKD07821	Lamp Bracket, Rear	1	C	D
29	XSB4+8	Screw (M4x8)	2	C	D
30	XTB3+6F	Screw (M3x6)	14	C	D
31	XTB3+6FFZ	Screw (M3x6)	4	C	D
32	XTB3+8G	Screw (M3x8)	1	C	D
33	XTB3+10F	Screw (M3x10)	1	C	D
34	XXE3D8FP	Set Screw	1	C	D
35	XYN3+A8-B	Screw (M3x8)	3	C	D
36	FFPPJ0141	Insulation Sheet	1	C	D
37	FFPFA0135	Shoulder Screw	1	N	D



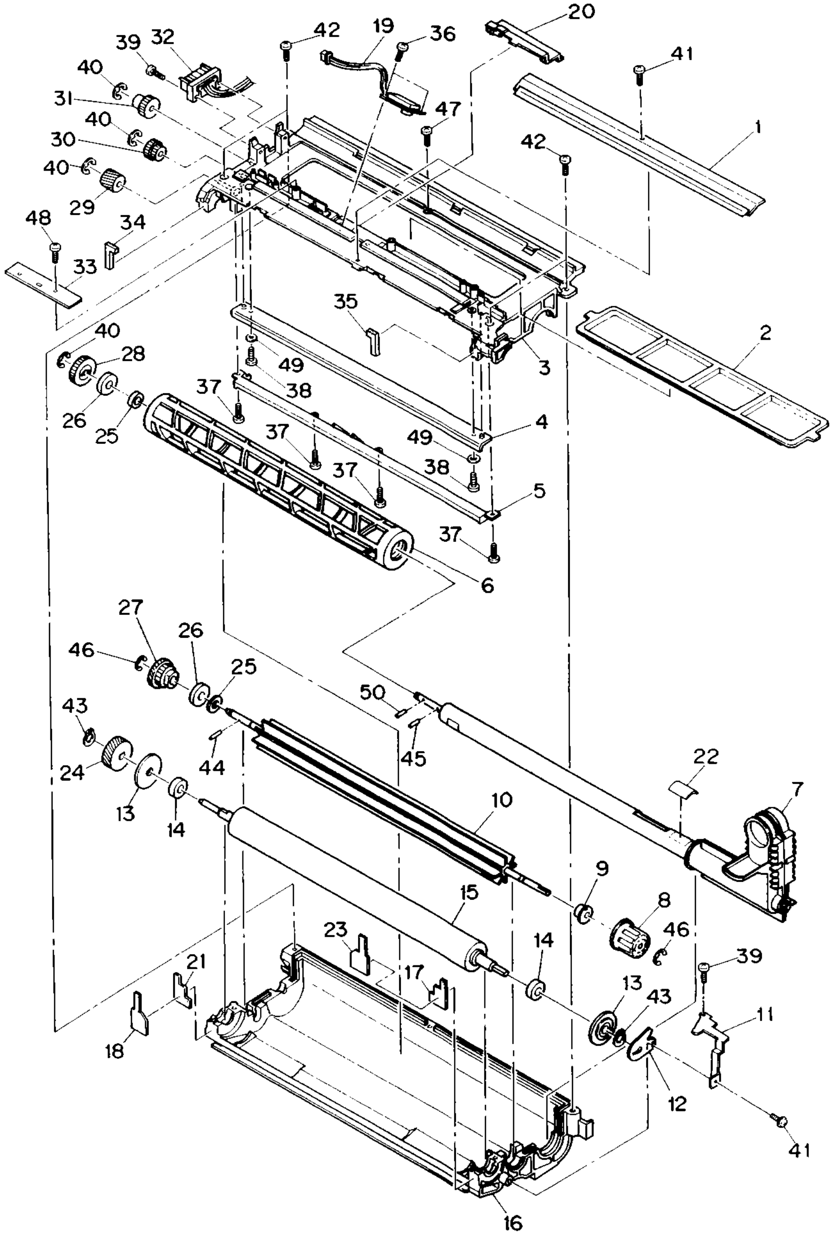
Optics, Half Speed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXK129002	Pulley Bracket	1	C	D
2	FFPKD0785	Bushing Support	2	C	D
3	FFPMQ0357	Bushing	2	C	B
4	FFPKP0048	Cleaning Felt	1	C	B
5	FFPKB06992	Frame, Half Speed Unit	1	C	D
6	FFPKR13931	Support, Guide Roller	1	C	D
7	FFPMA0510	Guide Roller	1	N	B
8	FFPGC0159	No.2/3 Mirror	2	C	D
9	FFPLQ0278	Mirror Support	2	C	B
10	FFPKP0059	Felt	1	C	B
11	FFPMB01751	Harness Guide	1	C	D
12	FFPKN0282	Sheet, Mirror Support	2	C	D
13	XXE3D8FP	Set Screw	1	C	D
14	XTB3+6F	Screw (M3x6)	4	C	D
15	XTB3+6FFZ	Screw (M3x6)	2	C	D
16	XYN3+F6	Screw (M3x6)	1	C	D
17	FFPFA0135	Shoulder Screw	1	N	D



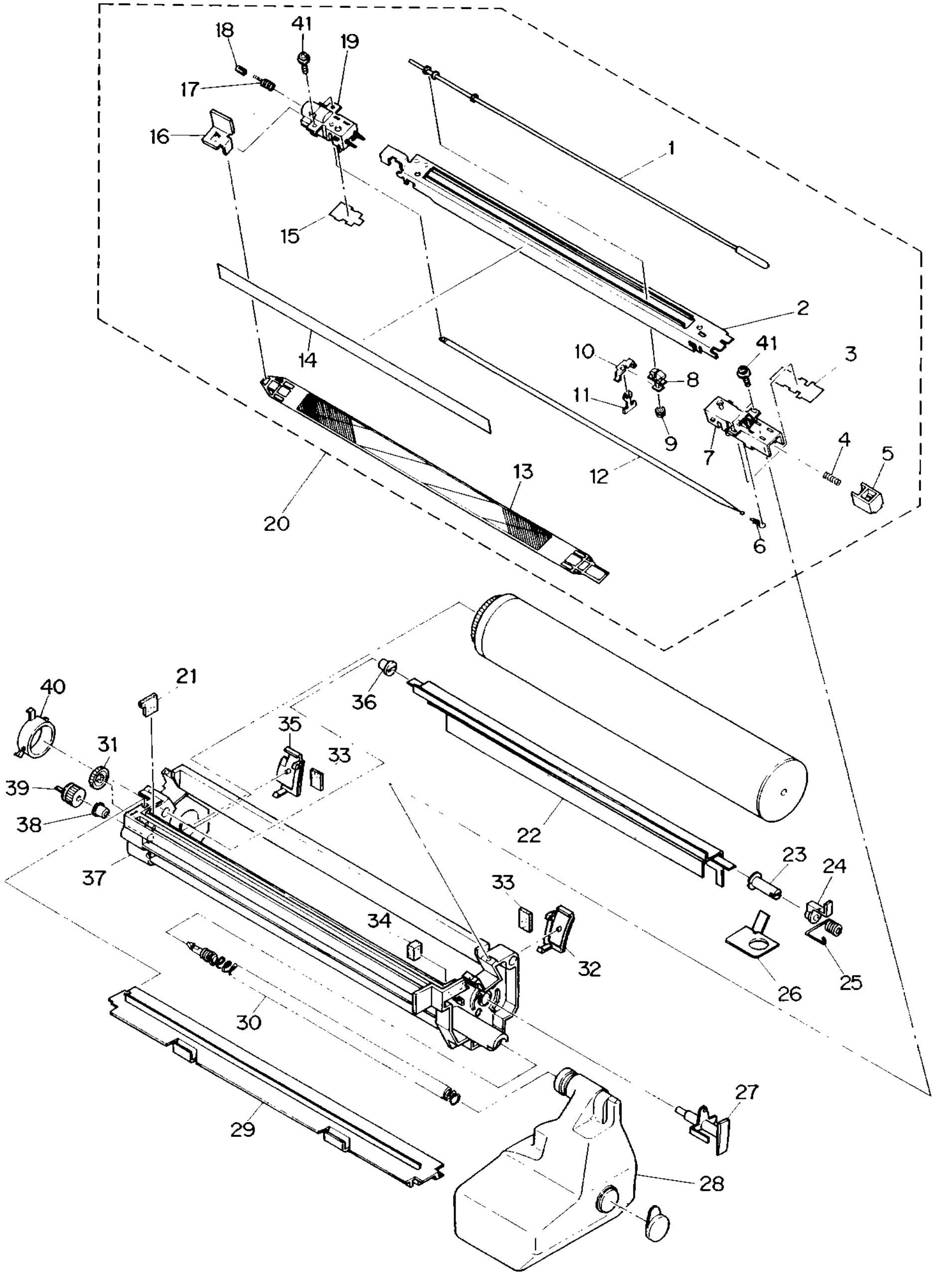
Hopper Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	XWG3	Washer	1	C	D
2	FFPLL0403	Slide Lever	1	C	D
3	FFPLP0734	Hook Spring	1	C	B
4	FFPLP0735	Tension Spring	1	C	B
5	FFPKQ00733	Slide Bracket, Hopper	1	C	D
6	FFPLG09411	Slide Pin	2	C	D
7	FFPHK0672	Bottle Support	1	C	D
8	FFPTE1668	Label, CDI	1	C	D
9	FFPKF0938	Stopper	1	C	D
10	TS15A20-09	Toner Sensor	1	C	B
11	FFPMF0696	Gear 1, Hopper Sensor	1	C	C
12	FFPKF0937	Washer	1	C	D
13	FFPHP06342	Seal	1	C	B
14	FFPKS0664	Hopper Shutter	1	C	D
15	FFPLP0733	Shutter Spring	1	C	B
16	FFPKE07671	Gear Cover	1	C	D
17	D125J60-36	Bottle Motor	1	C	C
18	FFPXH02950	Bracket, Motor Mounting	1	C	D
19	FFPMF06951	Motor Gear	1	C	C
20	GP1A71A1	Sensor, Bottle Position	1	C	B
21	FFPMF0698	Hopper Gear	1	C	C
22	FFPFJ0033	Snap Ring	1	C	D
23	FFPMF0798	Idle Gear	1	C	C
24	FFPMF06971	Hopper Gear	1	C	C
25	FFPMF0699	Shaft Gear 2, Sensor	1	C	C
26	FFPXH10D11	Hopper Unit Ass'y	1	N	D
27	XTB3+8G	Screw (M3x8)	5	C	D
28	XTB3+6F	Screw (M3x6)	2	C	D
29	XUC5VM	E Ring	1	C	D
30	LWS1S	Locking Wire Saddle	1	C	D



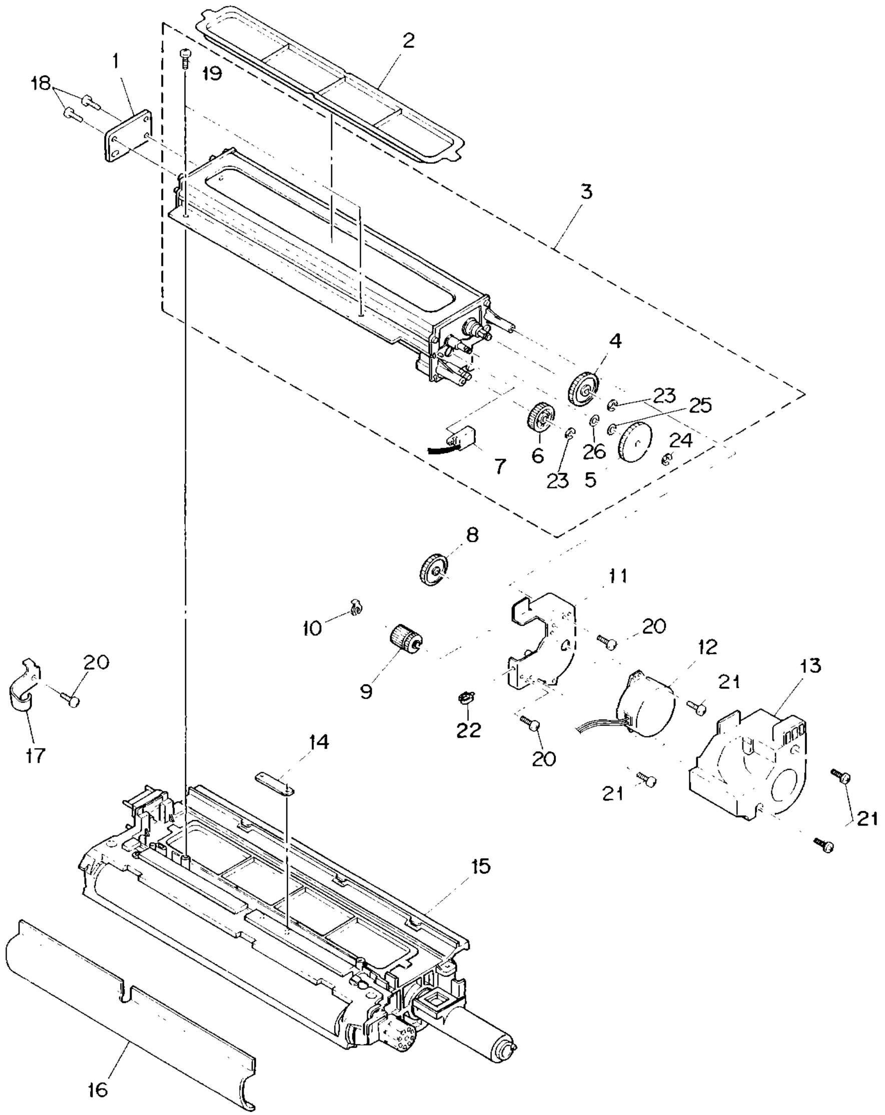
Developer Unit, Black

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0938	Plate, Toner Dispersion	1	C	D
2	FFPQF0031	Frame Lid, Developer	1	C	D
3	FFPQA0127	Upper Frame, Developer	1	C	D
4	FFPHK06354	Doctor Blade	1	C	D
5	FFPKM02551	Separator	1	C	D
6	FFPXG03C21	Toner Feeder	1	C	D
7	FFPXG04C21	Pipe, Toner Supply	1	C	D
8	FFPLA00881	Knob, Stirring Paddle	1	C	C
9	FFPMQ0483	Bushing, Developer	1	C	B
10	FFPHH00712	Stirring Paddle	1	C	D
11	FFPDF0226	Bias Lead (3), Developer	1	C	C
12	FFPKD0760	Support, Magnetic Pole	1	C	D
13	FFPHQ00311	Spacer Ring (FFPHQ0042: for Production)	2	C	A
14	FFPMQ0366	Bearing	2	C	B
15	FFPDN0022	Magnetic Roller	1	C	D
16	FFPQA0876	Developer Frame, Lower	1	C	D
17	FFPHP06732	Side Seal, Developer	1	C	A
18	FFPKN02891	Side Seal, Rear	1	C	A
19	TS0524LA-15	Sensor, Toner Density	1	C	B
20	FFPKE0937	Cover, TD Sensor	1	C	D
21	FFPHP06562	Side Seal, Developer	1	C	A
22	FFPMQ0445	Slider	1	C	D
23	FFPKN02901	Side Seal, Front	1	C	A
24	FFPMF0686	Gear, Magnetic Roller	1	C	C
25	FFPHP0553	Seal	2	C	D
26	FFPMQ0273	Bearing (FFPMQ0504: for Production)	2	C	B
27	FFPMF0889	Gear, Stirring Paddle	1	C	C
28	FFPMF0893	Gear, Toner Feed	1	C	C
29	FFPMF0688	Idle Gear 1	1	C	C
30	FFPMF0891	Idle Gear 2	1	C	C
31	FFPMF0892	Idle Gear 3	1	C	C
32	FFPWC1222	BG Harness	1	C	D
33	FFPKE0939	Harness Cover	1	C	D
34	FFPHP0696	Side Seal L	1	C	A
35	FFPHP0697	Side Seal R	1	C	A
36	XSB3+4BN	Screw (M3x4)	2	C	D
37	XTB3+10G	Screw (M3x10)	4	C	D
38	XSB4+6BN	Screw (M4x6)	2	C	D
39	XTB3+10G	Screw (M3x10)	3	C	D
40	XUC5VM	E Ring	4	C	D
41	XYN3+F6	Screw (M3x6)	2	C	D
42	XYN4+F16	Screw (M4x16)	4	C	D
43	XUB10VM	C Ring	2	C	D
44	XPJ2D10WV	Pin	1	C	D
45	XPL2A12WV	Spring Pin	1	C	D
46	XUC4VM	E Ring	2	C	D
47	XTB4+10G	Screw (M4x10)	1	C	D
48	XTB3+6G	Screw (M3x6)	1	C	D
49	XWE4BN	Washer	2	C	D
50	XPJ2D12WV	Pin	1	C	D



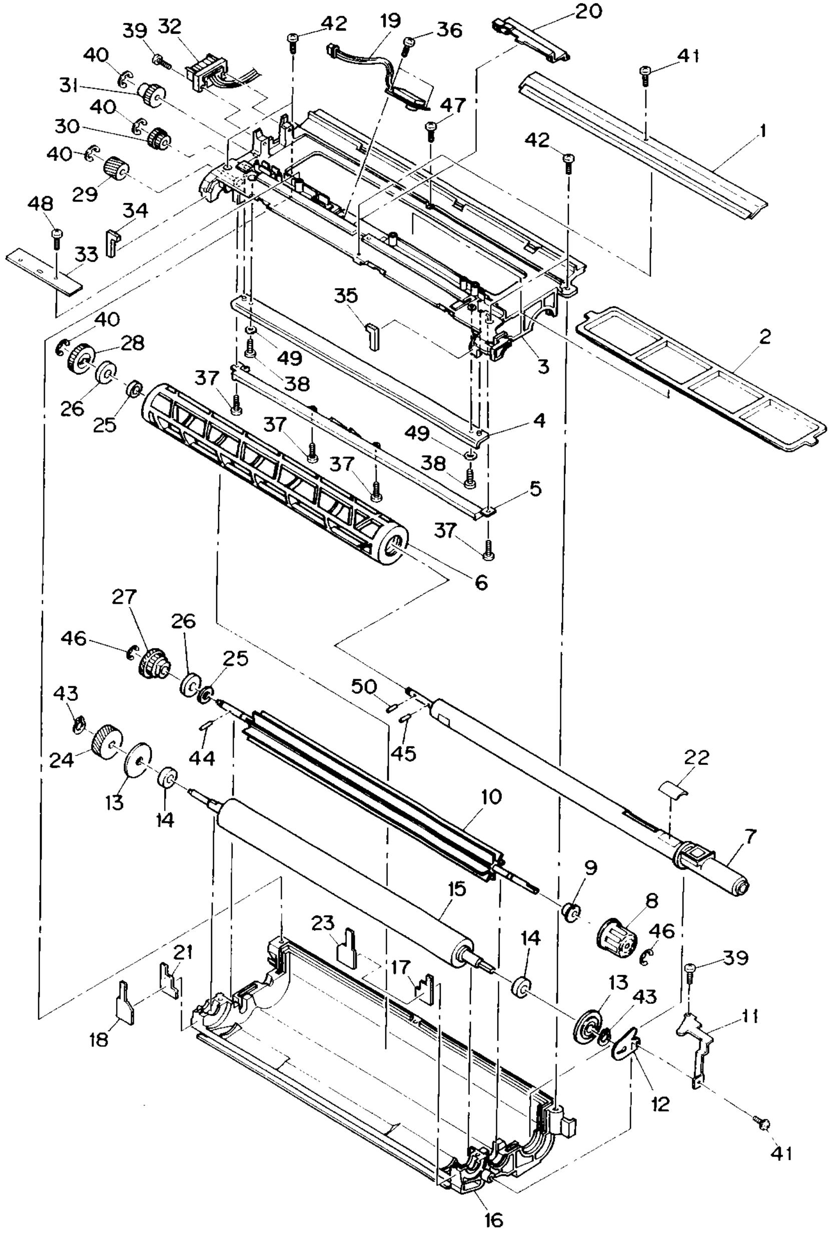
Drum Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPLG1226	Cleaning Shaft	1	C	D
2	FFPKE07652	Corona Case	1	C	D
3	FFPJA0228	Corona Lid, Front	1	C	A
4	FFPLP0722	Tension Spring, Grid	1	C	B
5	FFPKQ00691	Grid Base	1	C	A
6	FFPLP07671	Tension Spring 2	1	C	A
7	FFPJA02383	Corona Block, Front	1	C	A
8	FFPKQ0070	Cleaning Base B, Cable	1	C	B
9	FFPXG59950	Base C Ass'y, Cable Cleaning	1	C	B
10	FFPXG56950	Base A Ass'y, Cable Cleaning	1	C	B
11	FFPHK06501	Grid Cleaner	1	C	B
12	FFPEY0052	Corona Wire 2	1	C	A
13	FFPKS06751	Corona Grid	1	C	C
14	FFPJC01881	Shield Cover, Corona	1	C	C
15	FFPJA0229	Corona Lid, Rear	1	C	A
16	FFPDF02081	Grid Lead	1	C	A
17	FFPLP0769	Spring, Socket	1	C	B
18	FFPDA00264	Socket	1	C	A
19	FFPJA02301	Corona Base, Rear	1	C	A
20	FFPXG60B501	No.1 Corona Ass'y	1	C	B
21	FFPHP0652	Sponge Seal 11	1	C	A
22	FFPHK06331	Cleaning Blade	1	C	A
23	FFPLT01002	Shaft, Front	1	C	D
24	FFPMQ0374	Blade Support	1	C	D
25	FFPLR01961	Spring, Blade Pressure	1	C	B
26	FFPLL04021	Release Lever	1	C	D
27	FFPLG09513	Drum Support, Front	1	C	D
28	FFPQA00882	Toner Bottle, Waste	1	C	A
29	FFPXG639001	Cleaning Cover Ass'y	1	C	D
30	FFPHG0036	Recycle Coil	1	C	D
31	FFPMF0693	Idle Gear, Recycle Coil	1	C	C
32	FFPHP06382	Side Seal, Front	1	C	A
33	FFPHP0650	Sponge Seal 9	2	C	A
34	FFPHP06511	Sponge Seal 10	1	C	A
35	FFPHP06352	Side Seal, Rear	1	C	A
36	FFPLT0099	Blade Shaft, Rear	2	C	D
37	FFPXG50B501	Frame, Drum Unit	1	C	D
38	FFPMQ0280	Bushing	2	C	B
39	FFPMF0692	Gear, Recycle Coil	1	C	C
40	FFPMQ03721	Drum Bushing	1	C	B
41	XYN3+F8	Screw (M3x8)	4	C	D



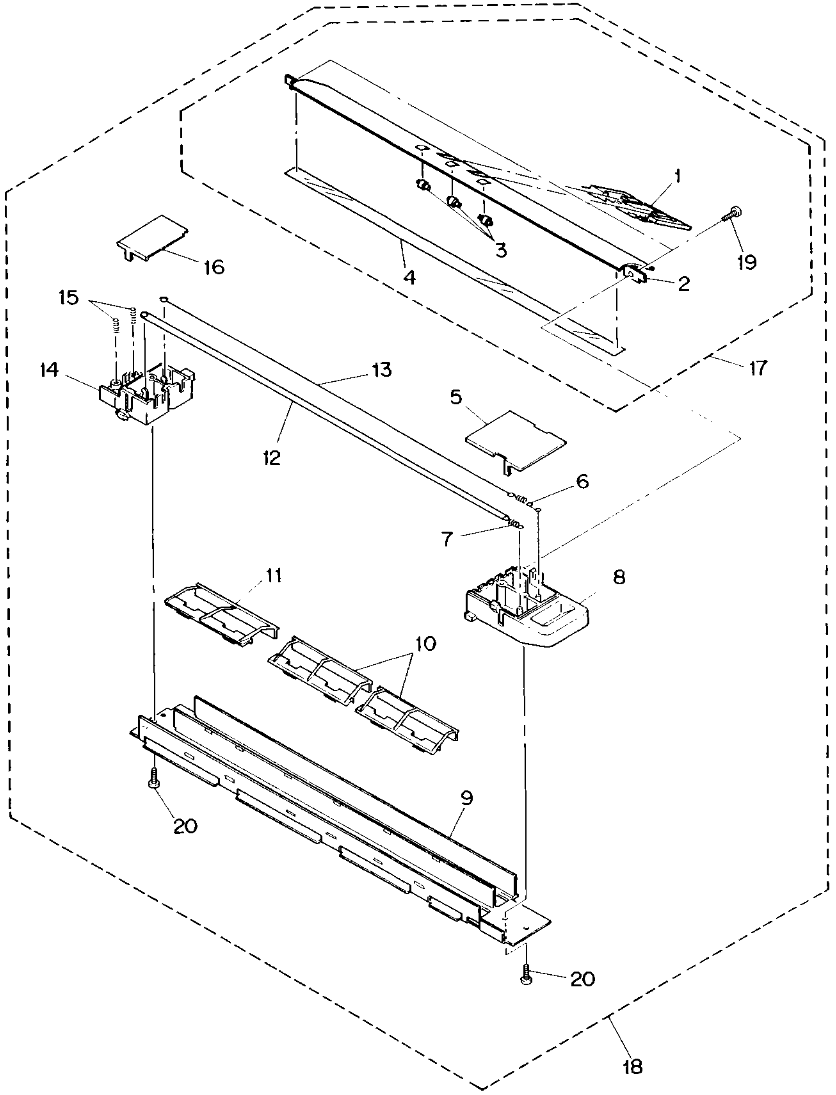
Developer Unit, Color

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWB0494	PCB Color Discrimination	1	C	C
2	FFPQF0031	Frame Lid, Developer	1	C	D
3	FFPVG02900	Color Hopper Unit	1	C	D
4	FFPMF06971	Hopper Gear	1	C	C
5	FFPMF0744	Transfer Gear, Color	1	C	C
6	FFPMF0248	Drive Gear	1	C	C
7	TS15A20-09	Toner Sensor, Remain	1	C	B
8	FFPMF06951	Motor Gear	1	C	C
9	FFPMF0747	Idle Gear, Color	1	C	C
10	FFPFJ0005	Snap Ring	1	C	D
11	FFPKR1454	Motor Bracket	1	C	D
12	D125J60-36	Bottle Motor	1	C	C
13	FFPKE0808	Motor Cover	1	C	D
14	FFPKD0907	Harness Holder	1	C	D
15	FFPVG01C65	Color Developer A'ssy	1	C	D
16	FFPKE08321	Cover, Magnetic Roller	1	C	D
17	FFPDE0044	Ground Terminal	1	C	C
18	XTB3+8G	Screw (M3x8)	4	C	D
19	XYN3+F8	Screw (M3x8)	2	C	D
20	XTB3+6F	Screw (M3x6)	3	C	D
21	XTN3+6F	Screw (M3x6)	4	C	D
22	UAMS05S2	Clamp	1	C	D
23	XUC4VM	E Ring	2	C	D
24	XUC2VM	E Ring	1	C	D
25	FFPMV0018	Polyslider	2	C	D
26	FFPMV0002	Polyslider	1	C	D



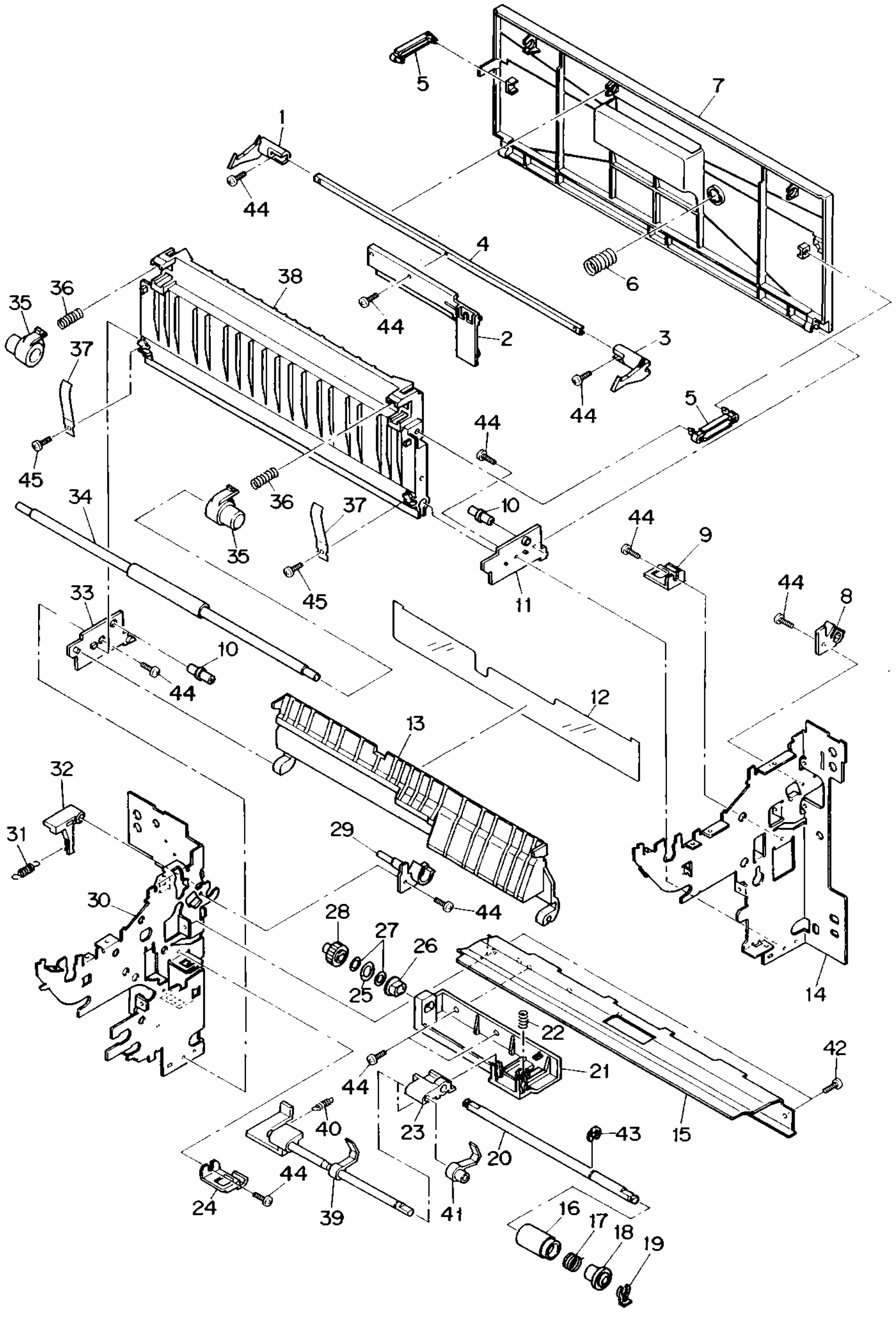
Developer Unit, Color

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0938	Plate, Toner Dispersion	1	C	D
2	FFPQF0031	Frame Lid, Developer	1	C	D
3	FFPQA0127	Upper Frame, Developer	1	C	D
4	FFPHK06354	Doctor Blade	1	C	D
5	FFPKM02551	Separator	1	C	D
6	FFPXG03C21	Toner Feeder	1	C	D
7	FFPXG10C65	Pipe, Toner Supply	1	C	D
8	FFPLA00881	Knob, Stirring Paddle	1	C	C
9	FFPMQ0483	Bushing, Developer	1	C	B
10	FFPHH00712	Stirring Paddle	1	C	D
11	FFPDF0226	Bias Lead (3), Developer	1	C	C
12	FFPKD0760	Support, Magnetic Pole	1	C	D
13	FFPHQ00311	Spacer Ring (FFPHQ0042: for Production)	2	C	A
14	FFPMQ0366	Bearing	2	C	B
15	FFPDN0022	Magnetic Roller	1	C	D
16	FFPQA0876	Developer Frame, Lower	1	C	D
17	FFPHP06732	Side Seal, Developer	1	C	A
18	FFPKN02891	Side Seal, Rear	1	C	A
19	TS0524LA-15	Sensor, Toner Density	1	C	B
20	FFPKE0937	Cover, TD Sensor	1	C	D
21	FFPHP06562	Side Seal, Developer	1	C	A
22	FFPMQ0445	Slider	1	C	D
23	FFPKN02901	Side Seal, Front	1	C	A
24	FFPMF0686	Gear, Magnetic Roller	1	C	C
25	FFPHP0553	Seal	1	C	D
26	FFPMQ0273	Bearing (FFPMQ0504: Production)	2	C	B
27	FFPMF0889	Gear, Stirring Paddle	1	C	C
28	FFPMF0893	Gear, Toner Feed	1	C	C
29	FFPMF0688	Idle Gear 1	1	C	C
30	FFPMF0891	Idle Gear 2	1	C	C
31	FFPMF0892	Idle Gear 3	1	C	C
32	FFPWC1222	BG Harness	1	C	D
33	FFPKE0939	Harness Cover	1	C	D
34	FFPHP0696	Side Seal L	1	C	A
35	FFPHP0697	Side Seal R	1	C	A
36	XSB3+4BN	Screw (M3x4)	2	C	D
37	XTB3+10G	Screw (M3x10)	4	C	D
38	XSB4+6BN	Screw (M4x6)	2	C	D
39	XTB3+10G	Screw (M3x10)	3	C	D
40	XUC5VM	E Ring	4	C	D
41	XYN3+F6	Screw (M3x6)	2	C	D
42	XYN4+F16	Screw (M4x16)	4	C	D
43	XUB10VM	C Ring	2	C	D
44	XPJ2D10WV	Pin	1	C	D
45	XPL2A12WV	Spring Pin	1	C	D
46	XUC4VM	E Ring	2	C	D
47	XTB4+10G	Screw (M4x10)	1	C	D
48	XTB3+6G	Screw (M3x6)	1	C	D
49	XWE4BN	Washer	2	C	D
50	XPJ2D12WV	Pin	1	C	D



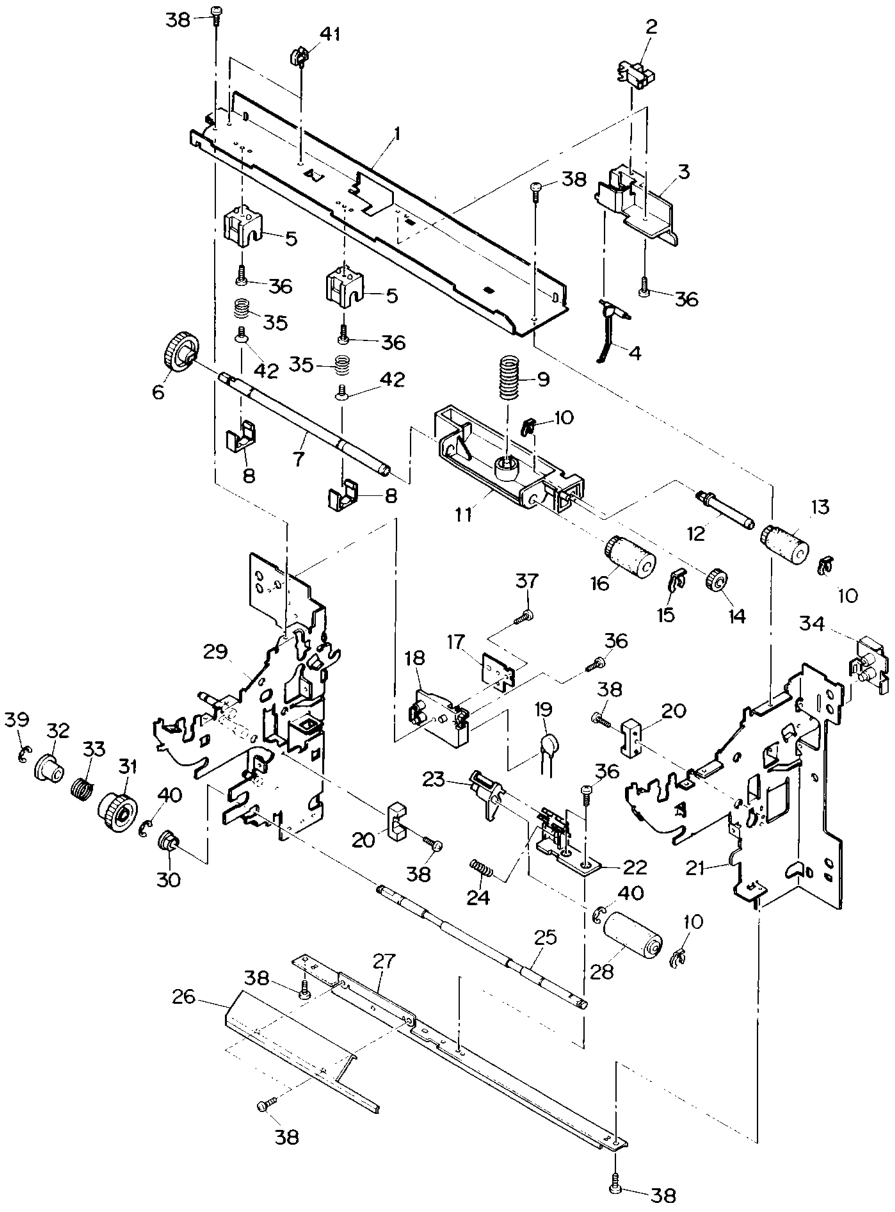
Corona No.2

Ref. No.	Part No.	Description	Q'ty Per Unit	Com- mon	Rank
1	FFPKD1045	Roller Support	1	C	D
2	FFPKF1053	Transfer Guide	1	C	D
3	FFPMA0421	Roller	3	C	B
4	FFPHK0642	Mylar Sheet	1	C	B
5	FFPJA02332	Corona Cover, Front	1	C	A
6	FFPLP07661	Tension Spring 1	1	C	A
7	FFPLP07671	Tension Spring 2	1	C	A
8	FFPJA02326	Corona Block, Front	1	C	A
9	FFPKQ01092	Frame, No.2 Corona	1	C	D
10	FFPLK02232	Separation Finger L	2	C	A
11	FFPLK02242	Separation Finger R	1	C	A
12	FFPEY0052	Corona Wire 2	1	C	A
13	FFPEY0051	Corona Wire 1	1	C	A
14	FFPJA02346	Corona Block, Rear	1	C	A
15	FFPLP0765	Spring	2	C	B
16	FFPJA02361	Corona Cover, Rear	1	C	A
17	FFPXL02950	Transfer Guide Ass'y	1	C	C
18	FFPVL01A421	No.2 Corona Ass'y	1	C	A
19	XYN3+F6	Screw (M3x6)	2	C	D
20	XTB4+10G	Screw (M4x10)	2	C	D



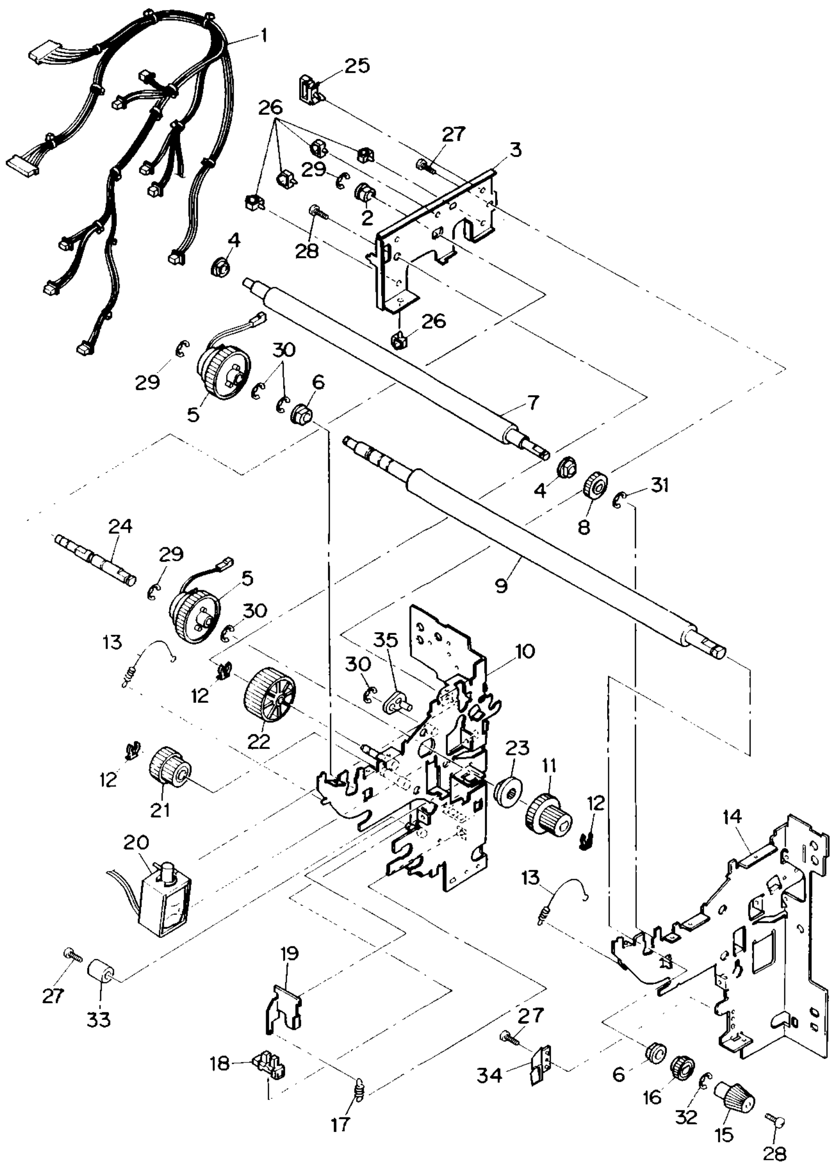
Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPLL0500	Lever 2	1	C	D
2	FFPLL04143	Lever	1	C	D
3	FFPLL0499	Lever 1	1	C	D
4	FFPKD1126	Lever Shaft	1	C	D
5	FFPLK0232	Conecting Arm	2	C	D
6	FFPLP0851	Lever Spring	1	C	C
7	FFPKE07827	Cover, Paper Feed	1	C	D
8	FFPKD1117	Tray Holder F	1	C	D
9	FFPKF1112	Lever Guide F	1	C	D
10	FFPKF09861	Hinge Stopper	2	C	D
11	FFPKQ0119	Hinge Block 1	1	C	D
12	FFPHK0865	Guide Mylar	1	C	C
13	FFPXA67B501	Paper Guide 2	1	C	D
14	FFPKB0805	Front Frame, Paper Feed	1	C	D
15	FFPXQ86B50	Guide Paper, Sheet Bypass	1	C	D
16	FFPMA03781	DFP Roller	1	C	A
17	FFPLR0198	Spring	1	C	B
18	FFPLU00251	Boss	1	C	C
19	FFPFJ0033	Snap Ring	1	C	D
20	FFPLG1247	Roller Shaft	1	C	D
21	FFPKR15681	Bracket	1	C	D
22	FFPLP07581	Spring	1	C	B
23	FFPLL0420	Arm	1	C	D
24	FFPKF1129	Lever Guide R	1	C	D
25	FFPLQ0323	Spring Washer	1	C	D
26	FFPMQ03961	Bushing	1	C	B
27	FFPMV0010	Polyslider	2	C	D
28	FFPMF0730	Gear 16T	1	C	C
29	FFPKD1118	Tray Holder R	1	C	D
30	FFPXQ73C401	Rear Frame, Paper Feed	1	C	D
31	FFPLP0906	Tension Spring	1	C	B
32	FFPLL05071	Lever	1	C	D
33	FFPKQ0120	Hinge Block 2	1	C	D
34	FFPLG12411	Transport Roller	1	C	B
35	FFPKD08353	Bushing	2	C	D
36	FFPLP08991	Tension Spring	2	C	B
37	FFPLQ03191	Spring	2	C	B
38	FFPKF09643	Paper Guide 3	1	C	D
39	FFPKF1135	Stopper	1	C	D
40	FFPLP0859	Tension Spring	1	C	B
41	FFPLL05101	Stopper Lever	1	C	D
42	XTB4+8F	Screw (M4x8)	2	C	D
43	XUC5VM	E Ring	1	C	D
44	XTB3+8F	Screw (M3x8)	11	C	D
45	XTB3+8G	Screw (M3x8)	2	C	D



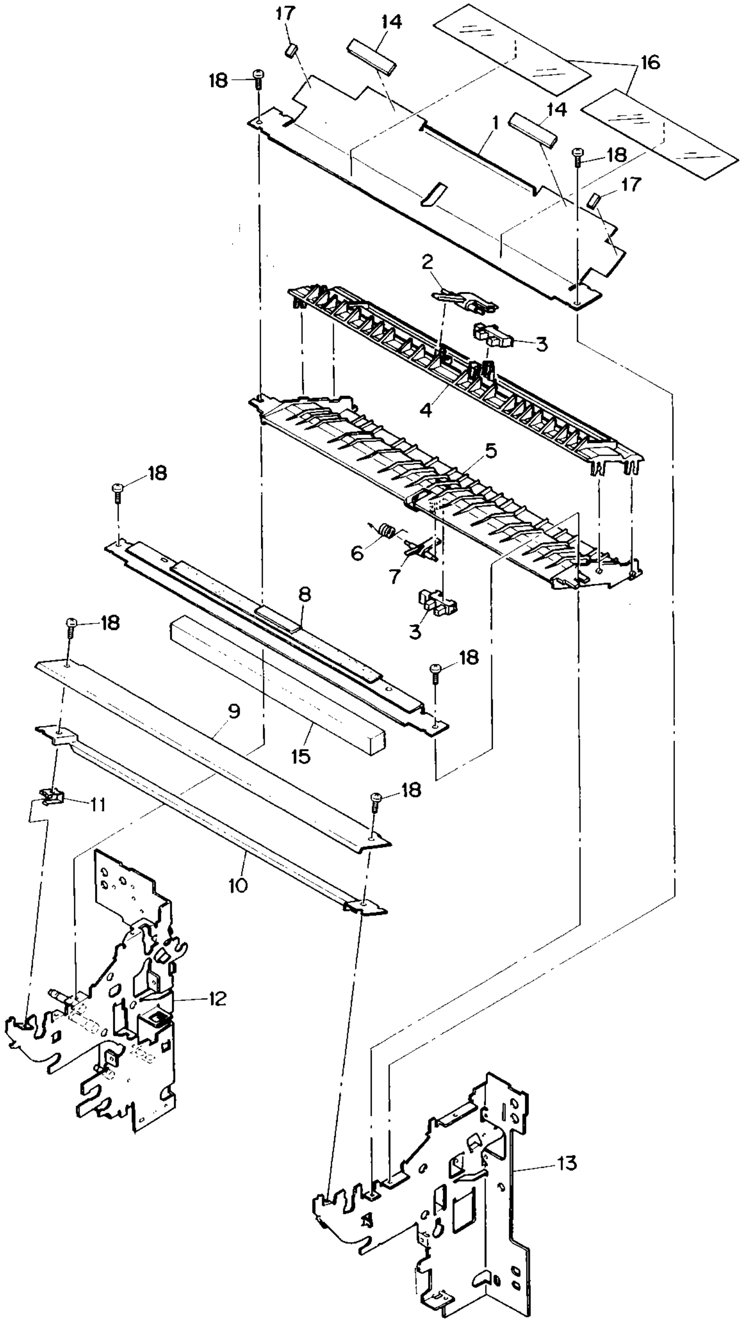
Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD11361	Roller Support, Paper Feed	1	C	D
2	GP1A71A1	Sensor	1	C	C
3	FFPKQ0118	Sensor Bracket	1	C	D
4	FFPLL04253	Sensor Lever	1	C	D
5	FFPMQ0448	Shaft Support, Paper Feed	2	C	D
6	FFPMF0729	Gear, 24T	1	C	C
7	FFPLG1233	Roller Shaft, Paper Feed	1	C	D
8	FFPKD0852	Support, Roller Shaft	2	C	D
9	FFPLP0762	Tension Spring	1	C	B
10	FFPFJ0033	Snap Ring	3	C	D
11	FFPKR1569	Bracket 1	1	C	D
12	FFPLG1023	Roller Shaft	1	C	D
13	FFPMA0377	Roller, Paper Feed	1	C	A
14	FFPMF07311	Idle Gear	1	C	C
15	FFPFJ0039	Snap Ring	1	C	D
16	FFPMA0159	Roller, Pick up	1	C	A
17	FFPDF0243	Ground Plate	1	C	D
18	FFPKH0265	Spacer, Insulation	1	C	D
19	ERZC10DK781	ZNR ⚠	1	C	D
20	FFPKF1120	Support	2	C	D
21	FFPKB0805	Front Frame, Paper Feed	1	C	D
22	FFPKD10361	Support	1	C	D
23	FFPLL0468	DFP Arm	1	C	D
24	FFPLP08161	Pressure Spring	1	C	B
25	FFPLG1248	DFP Shaft	1	C	D
26	FFPXQ75B401	Paper Guide	1	C	D
27	FFPKS08911	Stay, Reinforcement	1	C	D
28	FFPMA0420	DFP Roller	1	C	A
29	FFPXQ73C401	Rear Frame, Paper Feed	1	C	D
30	FFPMQ0166	Bushing	1	C	D
31	FFPMF0792	Drive Gear	1	C	C
32	FFPLU00251	Boss	1	C	D
33	FFPLR0217	Spring Clutch	1	C	B
34	FFPKH0264	Spacer, Insulation	1	C	D
35	FFPLP0898	Pressure Spring	2	C	B
36	XTB3+8F	Screw (M3x8)	6	C	D
37	XTB3+8G	Screw (M3x8)	1	C	D
38	XTB4+8F	Screw (M4x8)	8	C	D
39	XUC4VM	E Ring	1	C	D
40	XUC5VM	E Ring	2	C	D
41	UAMS05S2	Clamp	2	C	D
42	XSS4+6-P	Screw (M4x6)	2	C	D



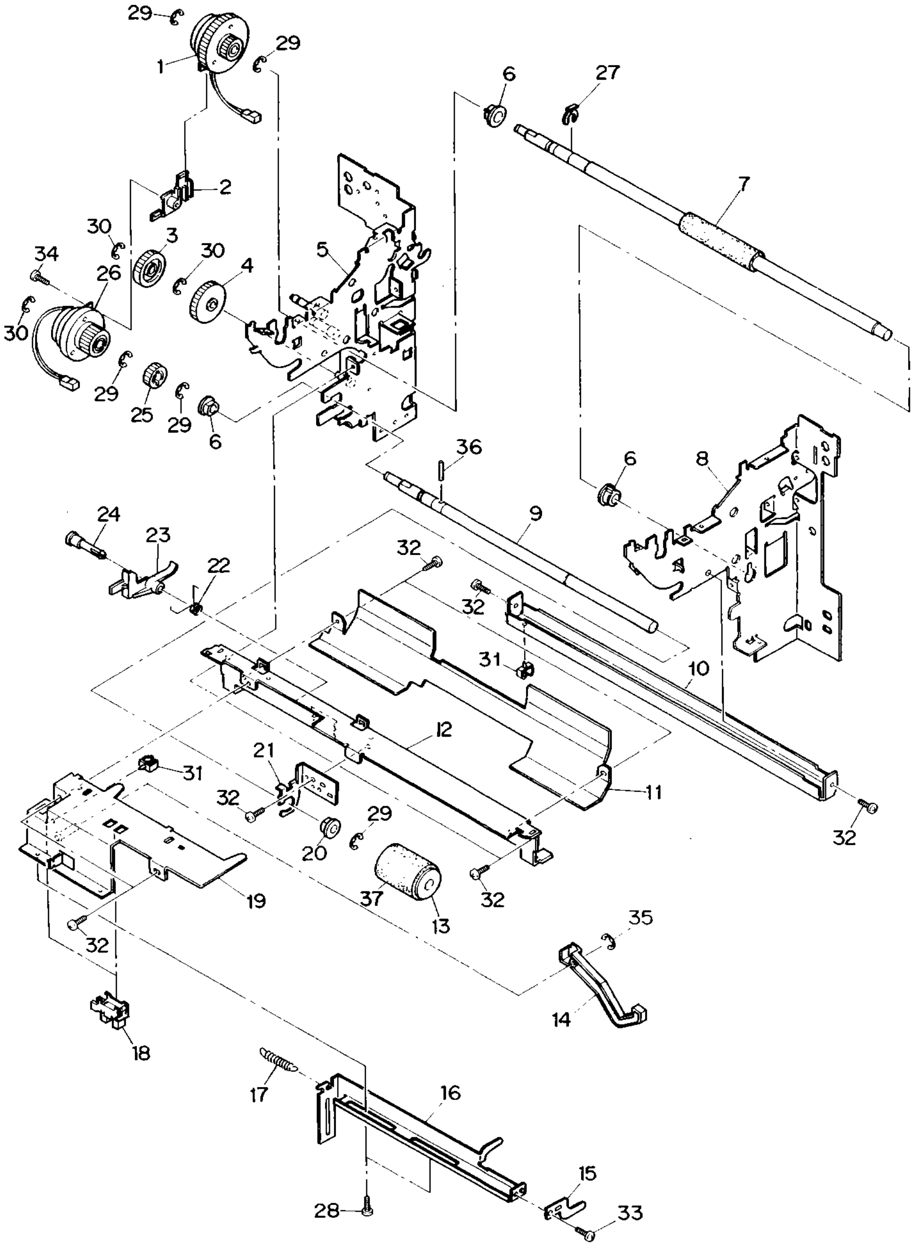
Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1476	RB Harness	1	C	D
2	FFPMQ03961	Bushing	1	C	B
3	FFPKS0890	Sub Plate	1	C	D
4	FFPMQ0094	Bushing	2	C	D
5	FFPXQ43B40	Magnet Clutch	2	C	A
6	FFPMQ0093	Bushing	2	C	B
7	FFPMA0444	Timing Roller, Idle	1	C	C
8	FFPMF0724	Gear, Timing Roller	1	C	C
9	FFPMA0443	Timing Roller, Drive	1	C	D
10	FFPXQ73C401	Rear Frame	1	C	D
11	FFPMF07281	Gear, 32/16T	1	C	C
12	FFPFJ0039	Snap Ring	3	C	D
13	FFPLP0756	Tension Spring	2	C	B
14	FFPKB0805	Front Frame	1	C	D
15	FFPLA00812	Knob, Paper Feed	1	C	C
16	FFPMF0725	Gear, Timing Roller	1	C	C
17	FFPLP0119	Tension Spring	1	C	B
18	GP1A71A1	Sensor	1	C	C
19	FFPLL0504	Actuator	1	C	D
20	FFPXQ50B40	HF Solenoid	1	C	D
21	FFPMF08012	Idle Gear	1	C	C
22	FFPMF0726	Idle Gear, 46T	1	C	C
23	FFPMQ03941	Bushing	1	C	B
24	FFPLG12341	Clutch Shaft	1	C	D
25	LWS1S	Locking Wire Saddle	1	C	D
26	UAMS05S2	Clamp	5	C	D
27	XTB3+8F	Screw (M3x8)	3	C	D
28	XYN3+F8	Screw (M3x8)	2	C	D
29	XUC5VM	E Ring	3	C	D
30	XUC7VM	E Ring	4	C	D
31	XUC4VM	E Ring	1	C	D
32	XUC6VM	E Ring	1	C	D
33	FFPKH0273	Spacer	1	C	D
34	FFPKF1170	Guide Plate	1	C	D
35	FFPLL0506	Lever	1	C	D



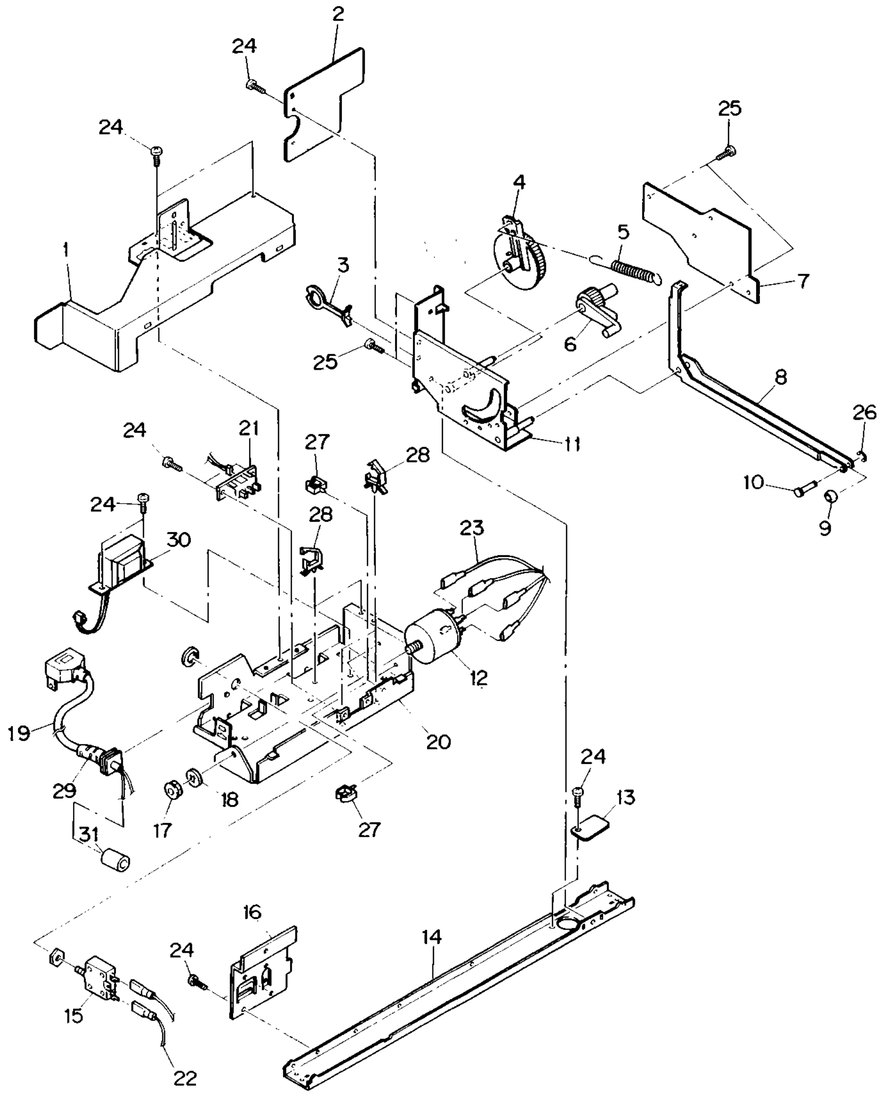
Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXQ87B50	Paper Guide 1	1	C	D
2	FFPLL04932	Sensor Lever	1	C	D
3	GP1A71A1	Sensor	2	C	C
4	FFPKF11151	Paper Guide C	1	C	D
5	FFPKF1118	Paper Guide B	1	C	D
6	FFPLR0199	Release Spring	1	C	B
7	FFPLL04241	Sensor lever	1	C	D
8	FFPXQ83B50	Paper Guide Ass'y	1	C	D
9	FFPKF1113	Upper Guide	1	C	D
10	FFPKF1114	Guide Plate, Registration	1	C	D
11	FFPDF0244	Ground Plate	1	C	D
12	FFPXQ73C401	Rear Frame	1	C	D
13	FFPKB0805	Front Frame	1	C	D
14	FFPKU0150	Support, Cleaning Sheet	2	C	B
15	FFPHP0680	Toner Seal	1	C	B
16	FFPHK0826	Guide Mylar	2	C	B
17	FFPKN0257	Rubber, Vibration	2	C	B
18	XTB4+8F	Screw (M4x8)	6	C	D



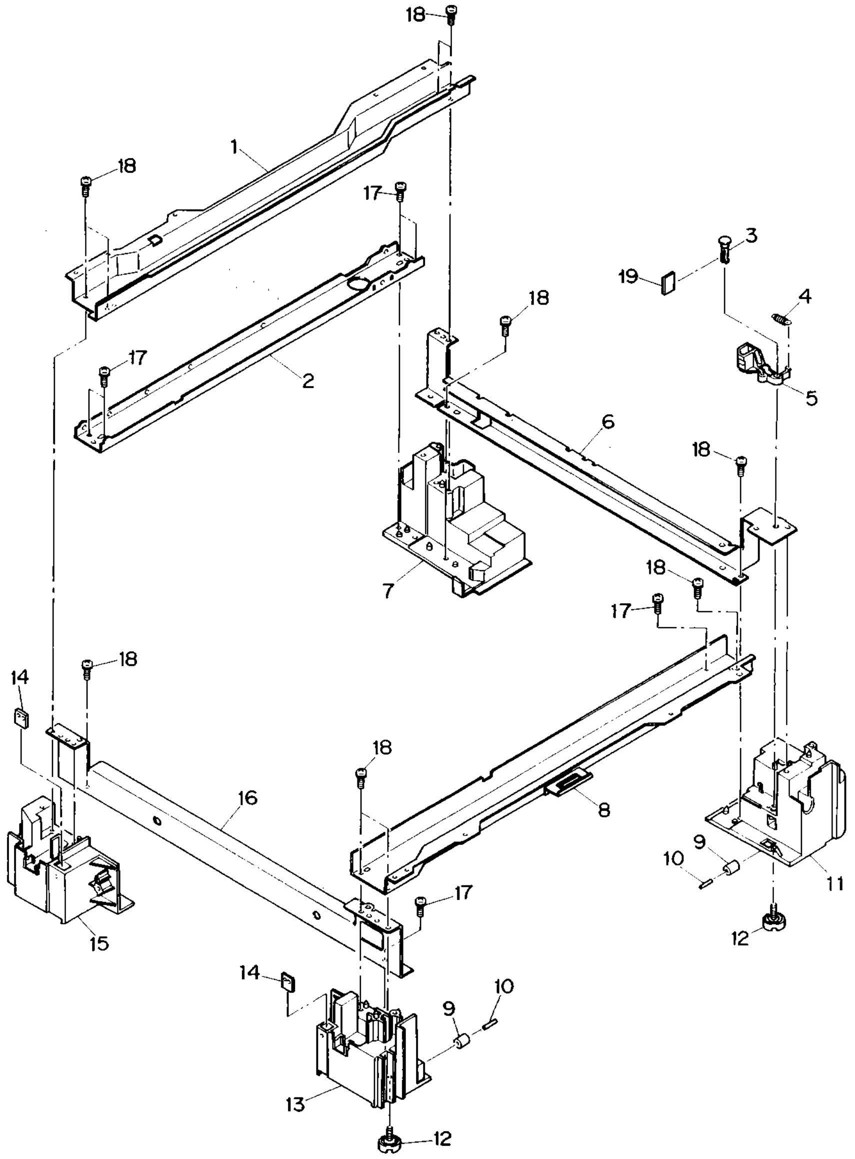
Paper Feed Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPXQ459001	Magnet Clutch	1	C	A
2	FFPKF11221	Clutch Support	1	C	D
3	FFPMF0796	Idle Gear	1	C	C
4	FFPMF0898	Idle Gear	1	C	C
5	FFPXQ73C401	Rear Frame	1	C	D
6	FFPMQ0451	Bushing	3	C	B
7	FFPMA04453	Middle Roller	1	C	B
8	FFPKB0805	Front Frame	1	C	D
9	FFPLG1314	Roller Shaft	1	C	D
10	FFPKD1166	Stay, Reinforcement	1	C	D
11	FFPKF11191	Paper Guide	1	C	D
12	FFPKD1119	Roller Stay	1	C	D
13	FFPMA0479	Roller, Paper Feed W/No. 37	1	C	B
14	FFPLL0495	Sensor Lever	1	C	D
15	FFPKE08781	Roller Holder	1	C	D
16	FFPKD11201	Slider	1	C	D
17	FFPLP08171	Release Spring	1	C	B
18	GP1A71A1	Sensor	1	C	B
19	FFPXQ81B50	Support Stay	1	C	D
20	FFPMQ0005	Bushing	1	C	B
21	FFPKR1570	Roller Support	1	C	D
22	FFPLR0243	Spring	1	C	B
23	FFPLL05031	Sensor Lever	1	C	D
24	FFPLG1237	Sensor Shaft	1	C	D
25	FFPMF0797	DFP Gear	1	C	C
26	FFPXQ46B43	Magnet Clutch	1	C	A
27	FFPFJ0039	Snap Ring	1	C	D
28	FFPFA0020	Shoulder Screw	2	C	D
29	XUC7VM	E Ring	5	C	D
30	XUC5VM	E Ring	3	C	D
31	UAMS05S2	Clamp	2	C	D
32	XTB4+8F	Screw (M4x8)	9	C	D
33	XTB3+8F	Screw (M3x8)	1	C	D
34	XTB3+8G	Screw (M3x8)	1	C	D
35	XUC3VM	E Ring	1	C	D
36	XPJ2D10WV	Pin	1	C	D
37	FFPMA0503	Roller, Paper Feed (Rubber only)	1	C	B



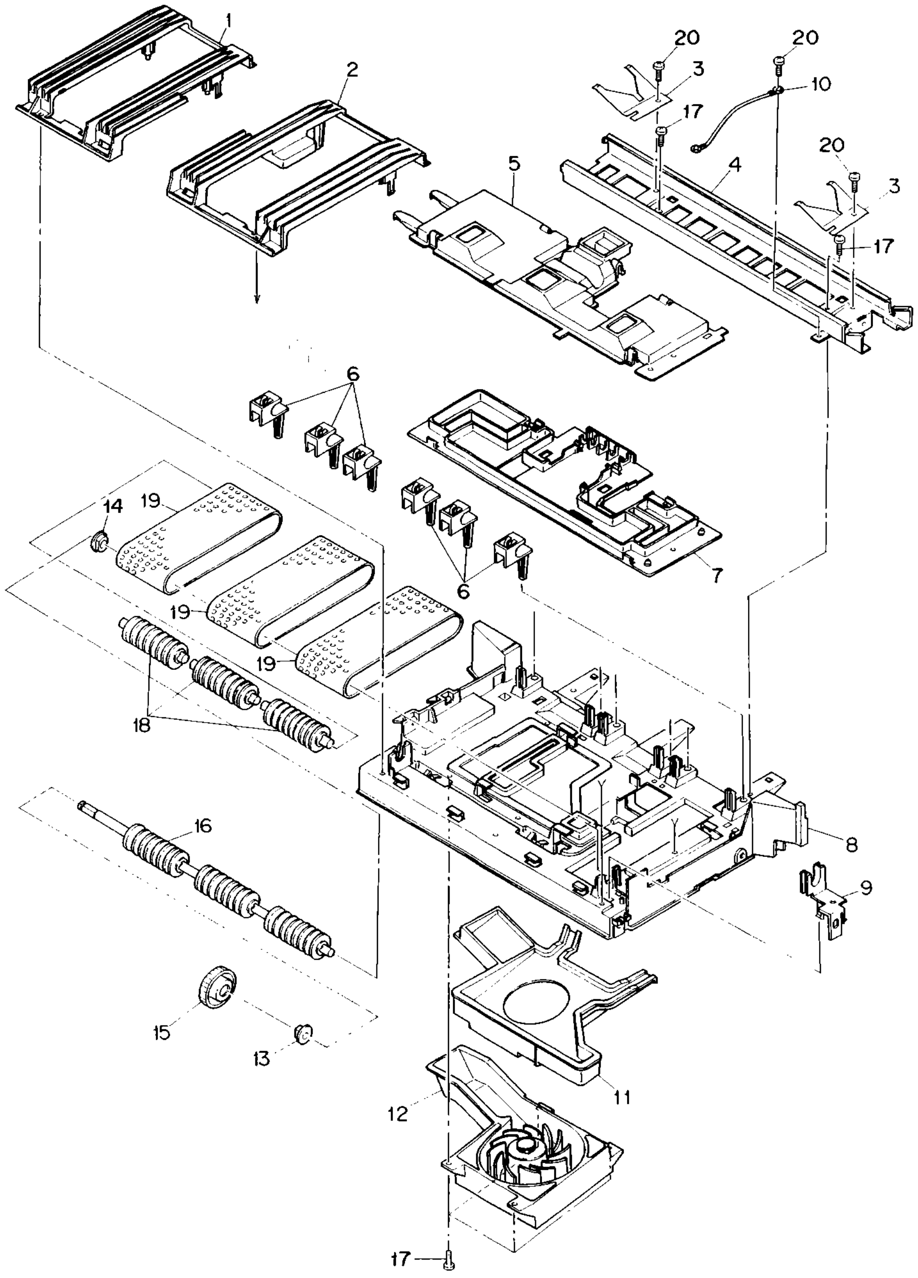
Paper Feed Section

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKE0885	AC Block Cover	1	C	D
2	FFPKS0904	Harness Cover	1	C	D
3	HL18-0	Harness Lifter	1	C	D
4	FFPMF0827	Lift Gear	1	C	C
5	FFPLP08501	Lift Spring	1	C	B
6	FFPMF08261	Cam/Gear	1	C	C
7	FFPKS0894	Bracket, Rear	1	C	D
8	FFPLL0497	Lift Lever	1	C	D
9	FFPMA0374	Lift Roller	1	C	B
10	FFPLG1007	Shaft, Lift Roller	1	C	D
11	FFPXQ70B50	Bracket, Front	1	C	D
12	VC210FA	Noise Filter ⚠	1	C	D
12	VC210FA12	Noise Filter, For Nordic ⚠	1	C	D
13	FFPKE0798	Cover	1	C	D
14	FFPKD1124	Rear Frame	1	C	D
15	FFPEM0004	Breaker ⚠	1	C	D
16	FFPKS08381	Option Out-let	1	C	D
17	XNG8C	Nut	1	C	D
18	XWC8A	Washer	1	C	D
19	FFPEV0103	Power Cord	1	C	D
19	FFPEV0104	Power Cord, For U.K. ⚠	1	C	D
19	FFPEV0105	Power Cord, For Australia ⚠	1	C	D
20	FFPKD11151	Rear Frame, Lower	1	C	D
21	ESE15403	Sensor	1	C	D
22	FFPWC1286	AB Harness 2 ⚠	1	C	D
23	FFPWC1230	AB Harness 1 ⚠	1	C	D
24	XTB3+6F	Screw (M3x6)	10	C	D
25	XTB4+8F	Screw (M4x8)	4	C	D
26	XUC2VM	E Ring	1	C	D
27	UAMS05S2	Clamp	3	C	D
28	LWS1S	Locking Wire Saddle	4	C	D
29	BR6N4	Cord Bushing ⚠	1	C	D
30	CH48I40	Choke Coil ⚠	1	C	D
31	ESD-R16C	Ferrite Core ⚠	1	C	D



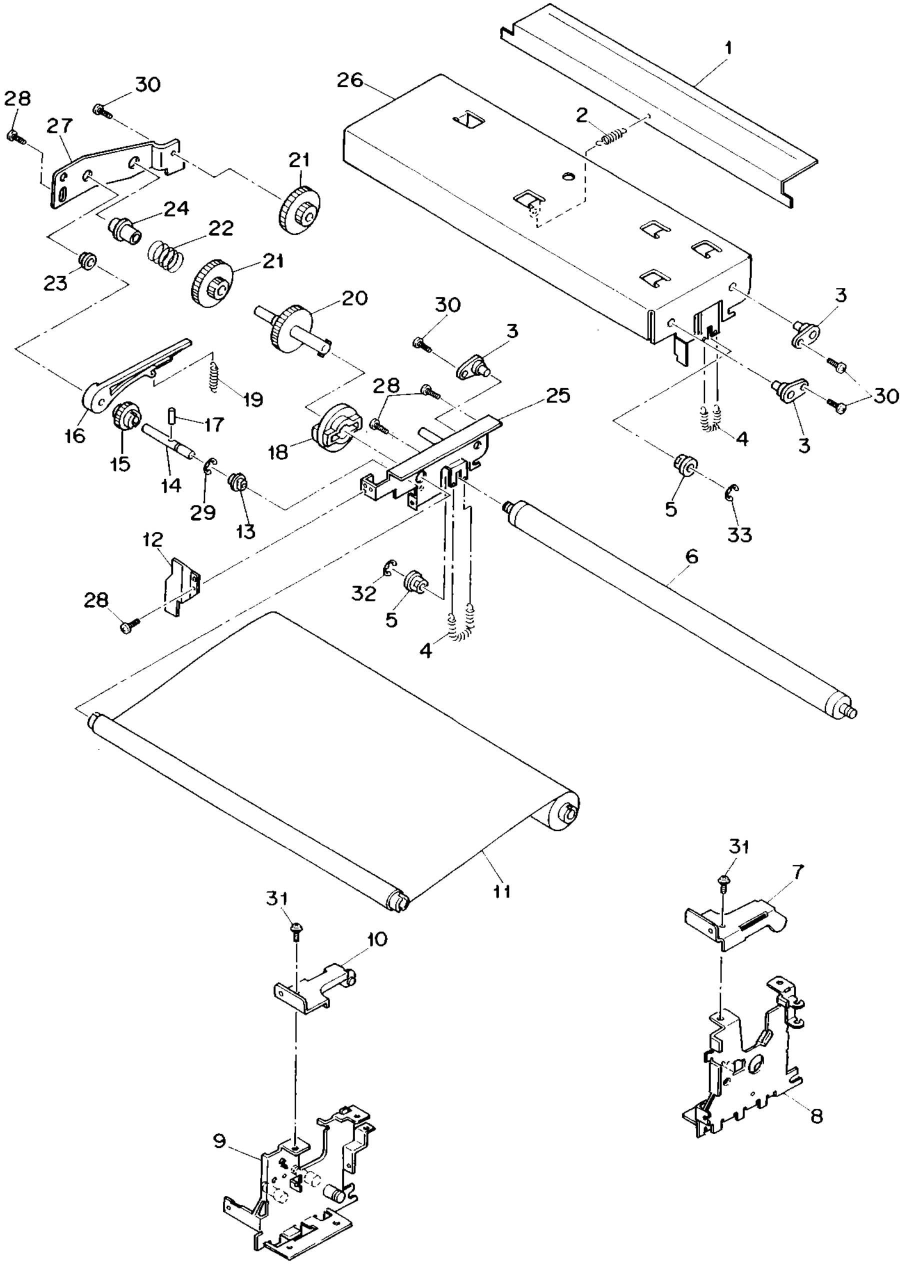
Paper Feed Section

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKF1125	Rear Support, Upper	1	C	D
2	FFPKD1124	Rear Frame, Lower	1	C	D
3	FFPKF1123	Pin	1	C	D
4	FFPLP0849	Spring	1	C	B
5	FFPLL0521	Lever	1	C	D
6	FFPXQ69B50	Right Stay	1	C	D
7	FFPKB08085	Right Frame, Rear	1	C	D
8	FFPKF1124	Front Stay	1	C	D
9	FFPMA0449	Roller	2	C	D
10	FFPFG04351	Pin	2	C	D
11	FFPKB08075	Right Frame, Front	1	C	D
12	FFPNM0027	Foot	2	C	D
13	FFPKB08097	Left Frame, Front	1	C	D
14	FFPKS0892	Cover, Support	2	C	D
15	FFPKB08107	Left Frame, Rear	1	C	D
16	FFPKD1123	Left Stay	1	C	D
17	XTB4+8F	Screw (M4x8)	6	C	D
18	XYN4+C8	Screw (M4x8)	10	C	D
19	FFPKM0276	Spacer	1	C	D



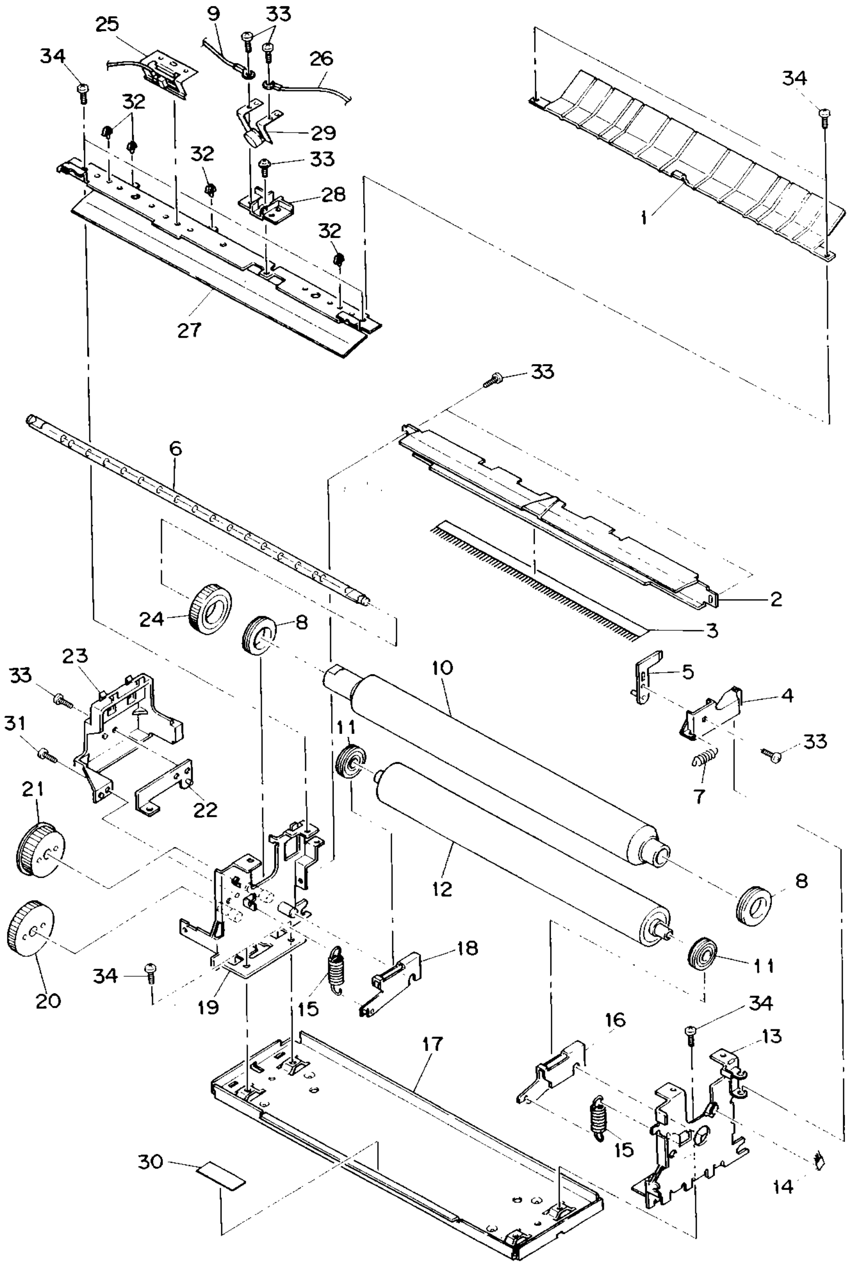
Paper Transport Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD1059	Transport Guide B	1	C	D
2	FFPKD1058	Transport Guide F	1	C	D
3	FFPLQ0270	Spring, Corona	2	C	B
4	FFPKF09471	Corona Rail	1	C	D
5	FFPHA00452	Duct 3	1	C	D
6	FFPMQ0497	Roller Bushing	6	C	D
7	FFPHA00462	Duct 4	1	C	D
8	FFPKB07691	Frame, Paper Transport	1	C	D
9	FFPDF0242	Ground Plate	1	C	D
10	FFPWC1326	HE Harness	1	C	D
11	FFPHA0044	Duct 2	1	C	D
12	CBDM24A4-901	Fan Motor	1	C	C
13	FFPMQ0383	Bushing	1	C	C
14	FFPMQ0005	Bushing	1	C	C
15	FFPMF07991	Gear 1	1	C	C
16	FFPMA03543	Drive Roller	1	C	C
17	XTB4+10G	Screw (M4x10)	6	C	D
18	FFPMA04261	Transfer Roller	3	C	C
19	FFPML0019	Belt, Paper Transport	3	C	C
20	XTB4+8F	Screw (M4x8)	3	C	D



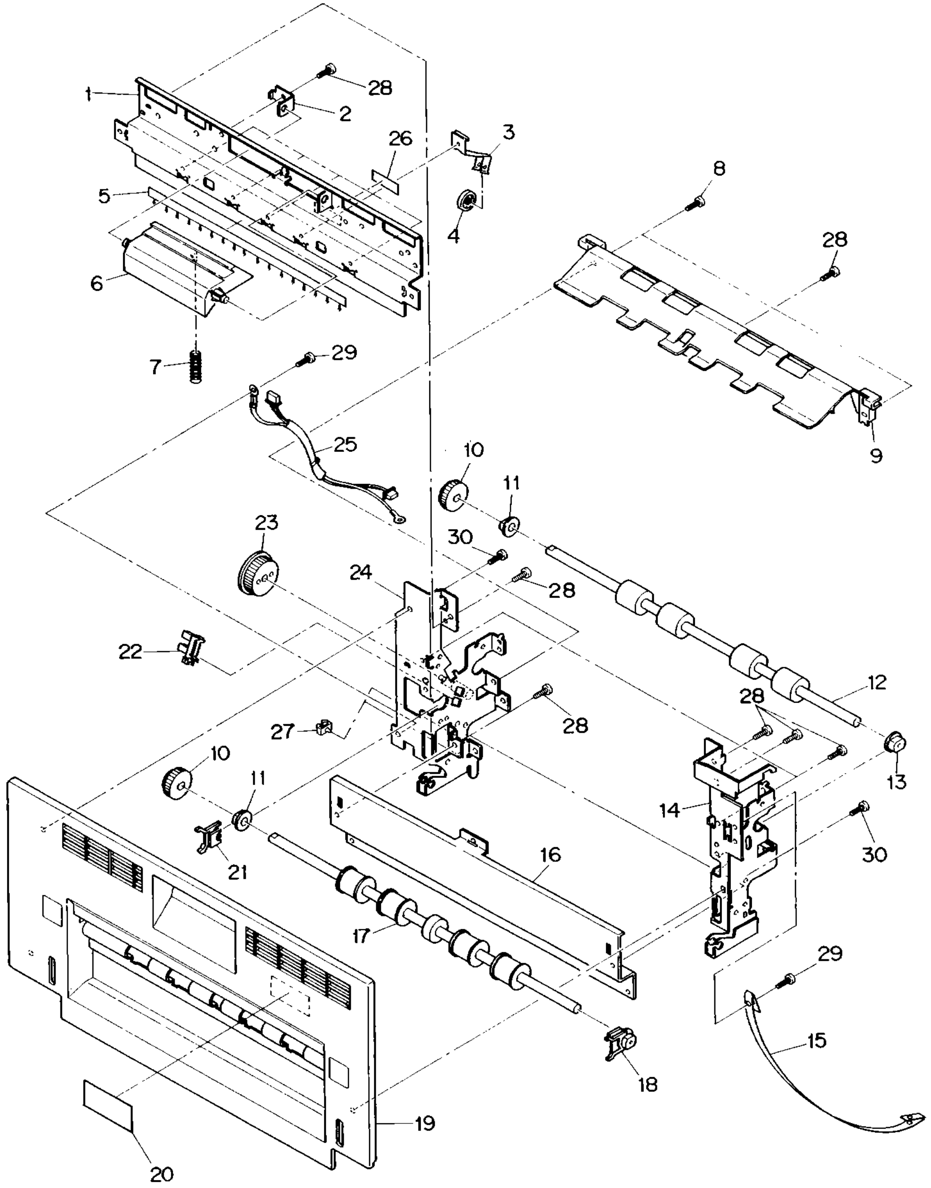
Fuser Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD1231	Pressure Plate	1	C	D
2	FFPLP0928	Pressure Spring	1	C	B
3	FFPMQ0498	Bushing, Web Roller	3	C	D
4	FFPLP0929	Pressure Spring	2	C	B
5	FFPMQ0499	Bushing, Pressure Roller	2	N	D
6	FFPMA0470	Pressure Roller	1	C	D
7	FFPKD10301	Pressure Plate, Front	1	C	D
8	FFPXT01908	Front Frame	1	C	D
9	FFPXT149081	Rear Frame	1	C	D
10	FFPKD10291	Pressure Plate, Rear	1	C	D
11	FFPTM0252	Cleaning Web Roller	1	C	A
12	FFPKE0831	Harness Cover	1	N	D
13	FFPMQ05011	One Way Bushing	1	N	D
14	FFPLG1369	Gear Shaft 2	1	C	D
15	FFPMF07131	Gear 1	1	C	C
16	FFPLL0409	Lever	1	C	D
17	XPJ2D12WV	Pin	1	C	D
18	FFPMQ0503	Gear Bushing 2	1	N	D
19	FFPLP0749	Lift Spring, Lever	1	C	D
20	FFPMF0800	Gear 3	1	C	C
21	FFPMF0716	Gear 4	2	C	C
22	FFPLP0792	Tension Spring	1	C	B
23	FFPMQ0401	Bushing, Lever	1	N	D
24	FFPMQ0502	Gear Bushing 1	1	N	D
25	FFPKQ00831	Gear Frame	1	C	D
26	FFPKD1232	Upper Frame	1	C	D
27	FFPKD1234	Rear Frame	1	C	D
28	XYN4+F8	Screw (M4x8)	4	C	D
29	XUC5VM	E Ring	1	C	D
30	XTB4+8H	Screw (M4x8)	3	C	D
31	XYN5+F8	Screw (M5x8)	2	C	D
32	XUC4VM	E Ring	2	C	D



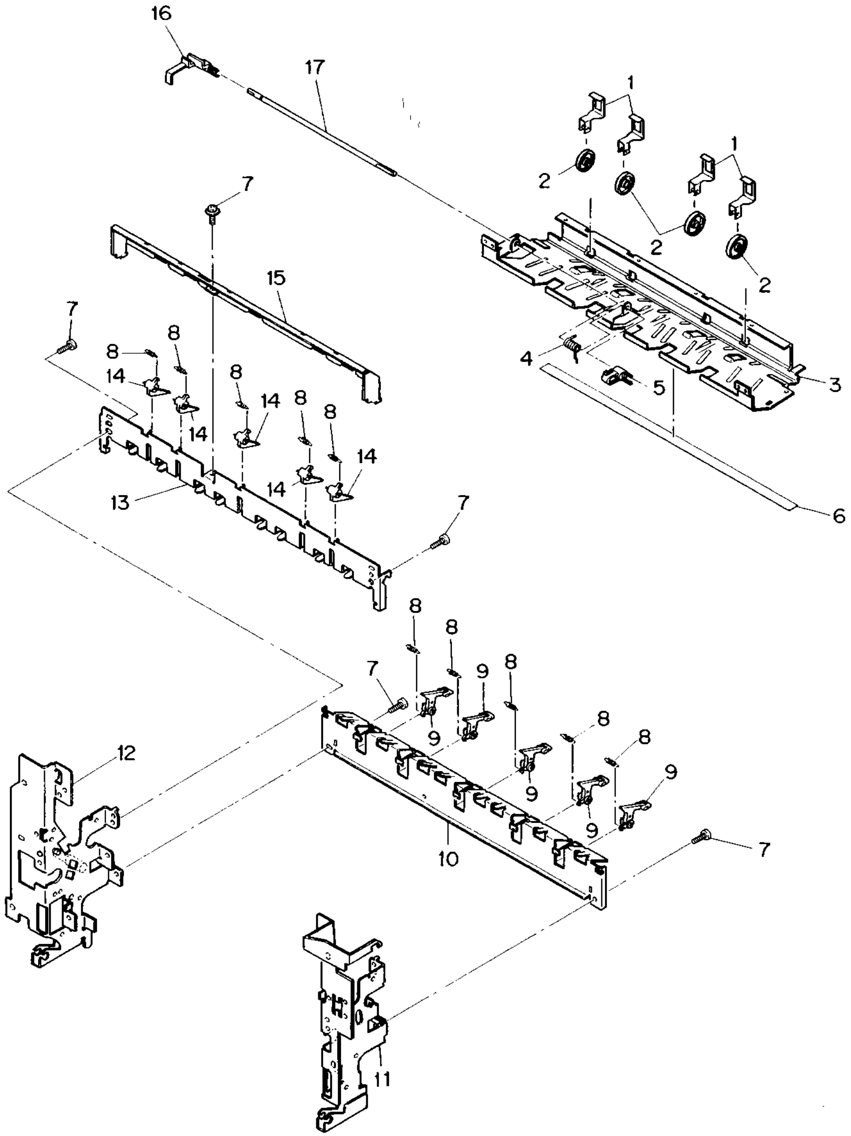
Fuser Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKF09501	Paper Guide, Front Upper	1	C	D
2	FFPKF09492	Paper Guide, Front Lower	1	C	D
3	FFPDU0025	Discharge Brush	1	C	C
4	FFPKQ0104	Front Base, Lamp Lead	1	C	C
5	FFPXT02900	Lamp Lead, Front	1	C	C
6	IK24V085W67	Fuser Lamp ⚠	1	C	A
6	H24V085WN2A	Fuser Lamp (or) ⚠	1	C	A
7	FFPLP0741	Lamp Spring	1	C	B
8	FFPMQ0385	Bushing	2	C	C
9	FFPWC1225	FU Harness 2 ⚠	1	C	D
10	FFPMA0359	Heat Roller	1	C	A
11	FFPMQ0043	Bearing	2	C	C
12	FFPMA03582	Pressure Roller	1	C	A
13	FFPXT01908	Front Frame	1	C	D
14	FFPDU0047	Discharge Brush	1	C	C
15	FFPLP07402	Tension Spring	2	C	B
16	FFPKD1026	Pressure Plate, Front	1	C	D
17	FFPKB07442	Bottom Plate	1	C	D
18	FFPKD1027	Pressure Plate, Rear	1	C	D
19	FFPXT149081	Rear Frame	1	C	C
20	FFPMF0706	Idle Gear 1	1	C	C
21	FFPMF0707	Idle Gear 2	1	C	C
22	FFPXT05950	Lamp Lead, Rear	1	C	C
23	FFPKQ0103	Rear Base	1	C	D
24	FFPMF0888	Gear, Heat Roller	1	C	C
25	FFPXT09950	Thermistor ⚠	1	C	C
26	FFPWC1285	FU Harness 1 ⚠	1	C	D
27	FFPKD08062	Harness Support	1	C	D
28	FFPKQ0082	Holder	1	C	D
29	FFPXT15900	Thermostat ⚠	1	C	C
30	FFPTE16151	Caution Label, High Temperature	1	C	D
31	XTB4+6F	Screw (M4x6)	1	C	D
32	UAMS05S2	Clamp	4	C	D
33	XYN4+F8	Screw (M4x8)	7	C	D
34	XTB4+8F	Screw (M4x8)	8	C	D



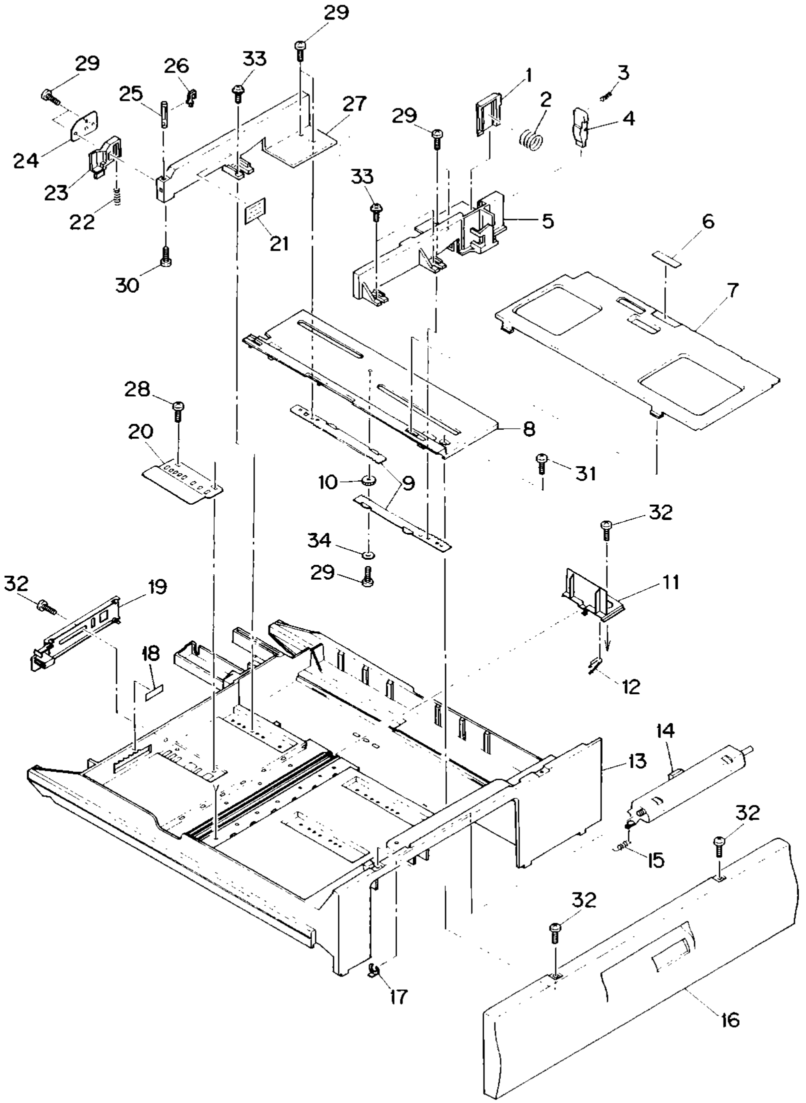
Paper Exit Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD08074	Bracket	1	C	D
2	FFPKD08121	Knob Support	1	C	D
3	FFPKD08113	Roller Support	5	C	D
4	FFPMA03651	Guide Roller	5	C	A
5	FFPDU0025	Discharge Brush	1	C	B
6	FFPLA00801	Knob	1	C	C
7	FFPLP0744	Knob Spring	1	C	B
8	FFPFA0021	Shoulder Screw	2	C	D
9	FFPKF0961	Front Guide, Paper Exit	1	C	D
10	FFPMF0711	Gear A	2	C	C
11	FFPMQ0005	Bushing	2	C	B
12	FFPMA03601	Roller, Paper Roller, Paper Exit	1	C	A
13	FFPMQ0386	Bushing	1	C	B
14	FFPKB07063	Front Frame	1	C	D
15	FFPKM0223	Belt	1	C	D
16	FFPKD08081	Lower Support 1	1	C	D
17	FFPMA03621	Roller, Paper Exit	1	C	A
18	FFPMQ0434	Bushing	1	C	B
19	FFPNA04701	Paper Exit Cover ⚠	1	C	D
20	FFPTE15942	Label, Open/Close	1	C	D
21	FFPKD08691	Bushing Support	1	C	B
22	GP1A71A1	Sensor, Paper Exit	1	C	B
23	FFPMF0712	Gear B	1	C	C
24	FFPXF019001	Rear Frame	1	C	D
25	FFPWC1226	U Harness Paper Exit	1	C	D
26	FFPTE1667	Caution Label, High Temperature	1	C	D
27	UAMS05S2	Clamp	1	C	D
28	XTB4+8F	Screw (M4x8)	8	C	D
29	XYN4+F8	Screw (M4x8)	2	C	D
30	XTB4+10G	Screw (M4x10)	2	C	D



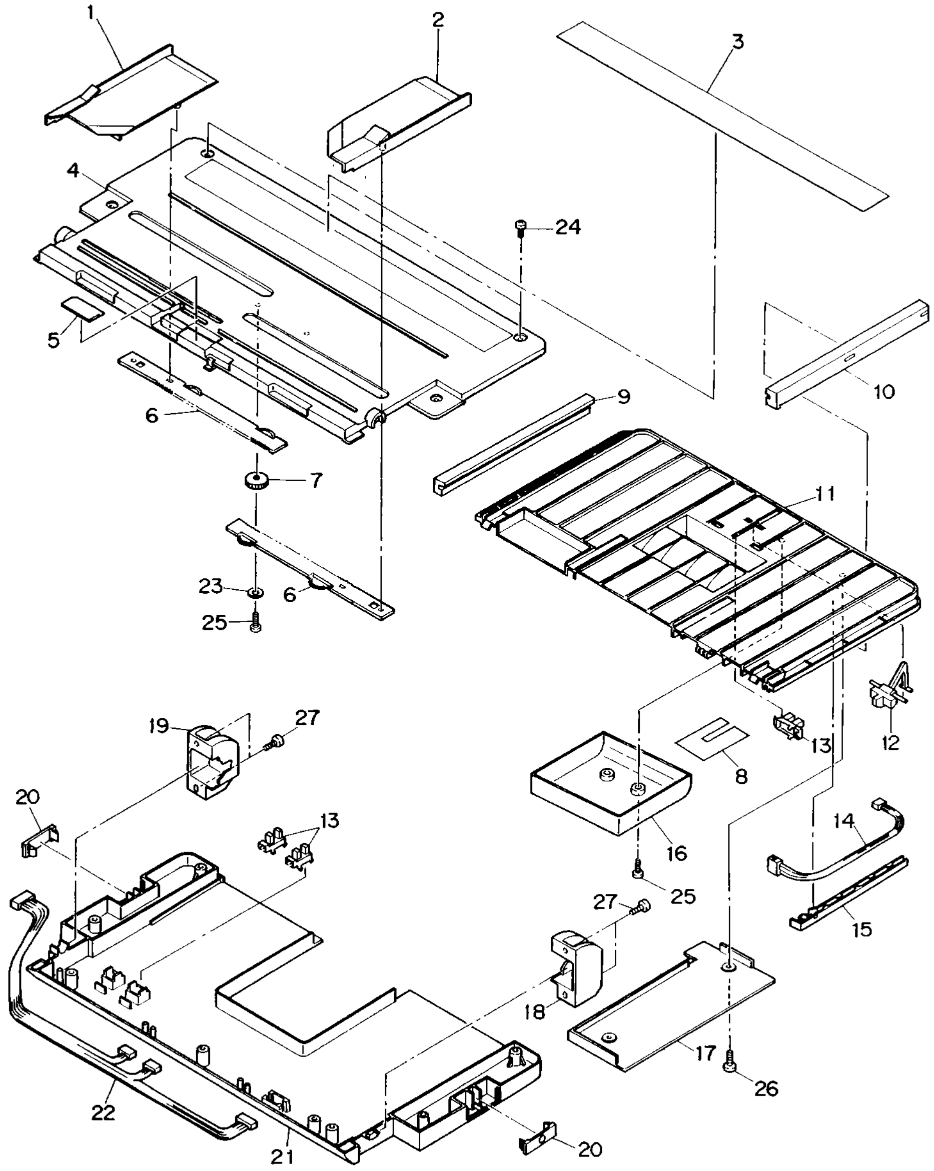
Paper Exit Unit

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPKD08101	Roller Support	4	C	D
2	FFPMA03651	Guide Roller	4	C	D
3	FFPKF09531	Upper Guide	1	C	D
4	FFPLR0222	Release Spring	1	C	B
5	FFPLL0407	Sensor Lever, Front	1	C	D
6	FFPHK05481	Guide Mylar	1	C	B
7	XYN4+F8	Screw (M4x8)	5	C	D
8	FFPLP0743	Spring, Separation Finger	10	C	B
9	FFPLK0231	Separation Finger, Lower	5	C	A
10	FFPKF09542	Paper Guide, Rear Lower	1	C	D
11	FFPKB07063	Front Frame	1	C	D
12	FFPXF019001	Rear Frame	1	C	D
13	FFPKF09584	Paper Guide, Rear Upper	1	C	D
14	FFPLK0230	Separation Finger, Upper	5	C	A
15	FFPKE07782	Upper Guide Cover, Fuser	1	C	D
16	FFPLL04081	Sensor Lever, Rear	1	C	D
17	FFPLG09862	Sensor Shaft	1	C	D



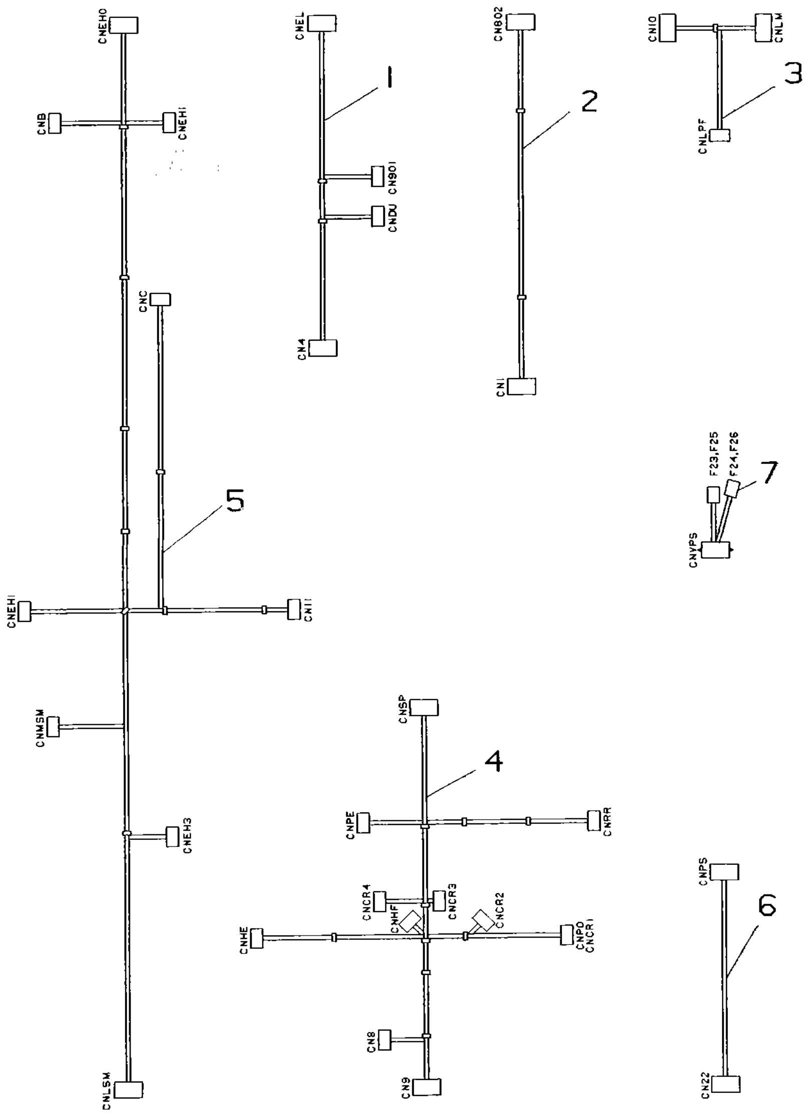
250 Sheet Paper Tray

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPQG0052	Paper Guide	1	C	D
2	FFPLP0848	Spring	1	C	B
3	FFPLP0763	Spring	1	C	B
4	FFPLL0427	Release Lever	1	C	D
5	FFPQG00642	Paper Guide A, Front	1	C	D
6	FFPKM0167	Pad	1	C	A
7	FFPXC04B50	Bottom Plate, W/Pad	1	C	D
8	FFPKS07061	Adjusting Plate	1	C	D
9	FFPMF0828	Rack	2	C	C
10	FFPMF0829	Pinion Gear	1	C	C
11	FFPQG00512	Paper Guide, Rear	1	C	D
12	FFPLQ0331	Spring	1	C	B
13	FFPQA00974	Main Frame	1	C	D
14	FFPLL0426	Tray lever	1	C	D
15	FFPLP0764	Spring	1	C	B
16	FFPXC03903	Tray Cover, Front	1	C	D
17	FFPFJ0033	Snap Ring	1	C	D
18	FFPTE16021	Label, Paper Size	1	C	D
19	FFPKS07053	Sensor Plate, Detection	1	C	D
20	FFPKS09541	Plate, Paper Size	1	C	D
21	FFPTE1599	Label, Paper Level	1	C	D
22	FFPLP0904	Spring	1	C	B
23	FFPKS0955	Block	1	C	D
24	FFPKS0956	Guide Plate	1	C	D
25	FFPLB0131	Push Button	1	C	C
26	FFPKF1031	Stopper	1	C	D
27	FFPQG00701	Paper Guide A, Rear	1	C	D
28	XYN3+F8	Screw (M3x8)	2	C	D
29	XTB3+8G	Screw (M3x8)	7	C	D
30	XTN3+6G	Screw (M3x6)	1	C	D
31	XYN4+F8	Screw (M4x8)	1	C	D
32	XTB4+10G	Screw (M4x10)	4	C	D
33	XTW4+14Q	Screw (M4x14)	3	C	D
34	XWG3	Washer	1	C	D



Sheet Bypass Tray

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPQG0066	Paper Guide, Rear	1	C	D
2	FFPQG0067	Paper Guide, Front	1	C	D
3	FFPPA03542	Original Guide	1	C	D
4	FFPQA01084	Tray (1), Sheet Bypass	1	C	D
5	FFPKP0067	Pad	1	C	C
6	FFPMF0828	Rack	2	C	D
7	FFPMF0829	Pinion Gear	1	C	C
8	FFPHK0827	Guide Mylar	1	C	D
9	FFPLF01741	Guide Rail 1	1	C	D
10	FFPLF01751	Guide Rail 2	1	C	D
11	FFPQA01108	Tray, Sheet Bypass	1	C	D
12	FFPLL0498	Sensor Lever	1	C	D
13	GP1A71A1	Photo Sensor	3	C	C
14	FFPWC1219	T Harness 2	1	C	D
15	FFPLK0254	Harness Guide	1	C	D
16	FFPKE07846	Harness Cover	1	C	D
17	FFPKE08395	Tray Cover	1	C	D
18	FFPKE0786	Hinge Cover	1	C	D
19	FFPKE0787	Hinge Cover (2)	1	C	D
20	FFPKE0891	Stopper Cover	2	C	D
21	FFPQA01094	Tray (2), Sheet Bypass	1	C	D
22	FFPWC1218	T Harness	1	C	D
23	XWE3	Washer	1	C	D
24	XTB4+10GFN	Screw (M4x10)	4	C	D
25	XTB3+6G	Screw (M3x6)	3	C	D
26	XTB3+8G	Screw (M3x8)	2	C	D
27	XTT4+10FFN	Screw (M4x8)	4	C	D


CNEH0
CNB
CNEH1
CNC
5
CNEH1
CN11
CNMSM
CNEH3
CNLSM
CNEL
1
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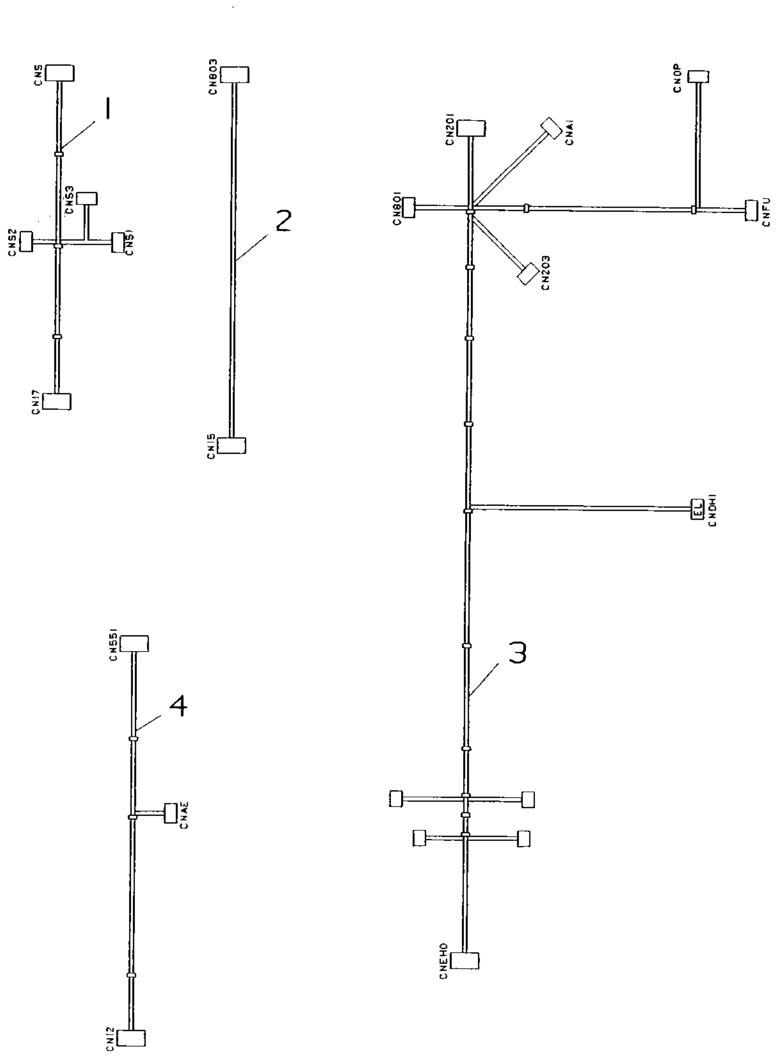
CNDU
CN4
CN802
2
CN1
CN10
CNLM
3
CNLPF
F23,F25
F24,F26
7
CNVPS
CNSP
4
CNPE
CNRR
CNCR4
CNHF
CNCR3
CNCR2
CNHE
CNPO
CNCR1
CN8
CN9
CNPS
6
CN22

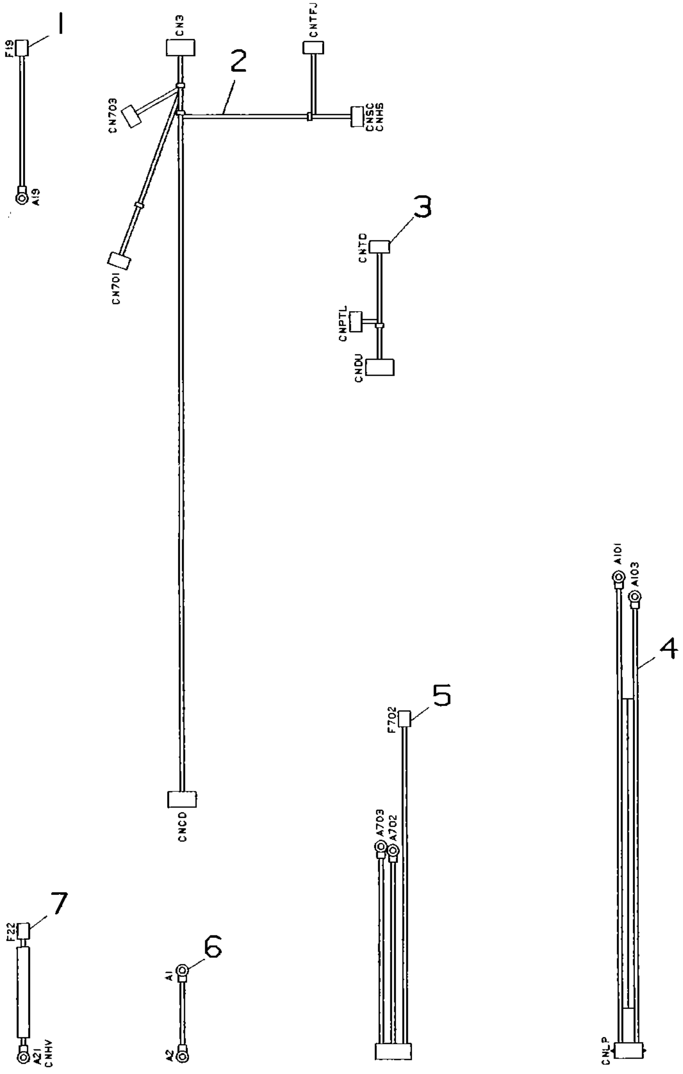
Electronics

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1452	CN Harness	1	C	D
2	FFPWC1209	VL Harness	1	C	D
3	FFPWC1473	OM Harness	1	C	D
4	FFPWC1476	RB Harness	1	C	D
5	FFPWC1474	OS Harness	1	C	D
6	FFPWC1328	PSS Harness	1	C	D
7	FFPWC1207	VPD Harness	1	C	D


CN5
1
CN53
CN52
CN51
CN17
CN803
2
CN15
CN201
CNA1
CN801
CN203
CNOP
CNFU
EL
CNDH1
3
CNEH0
CN551
4
CNAE
CN12

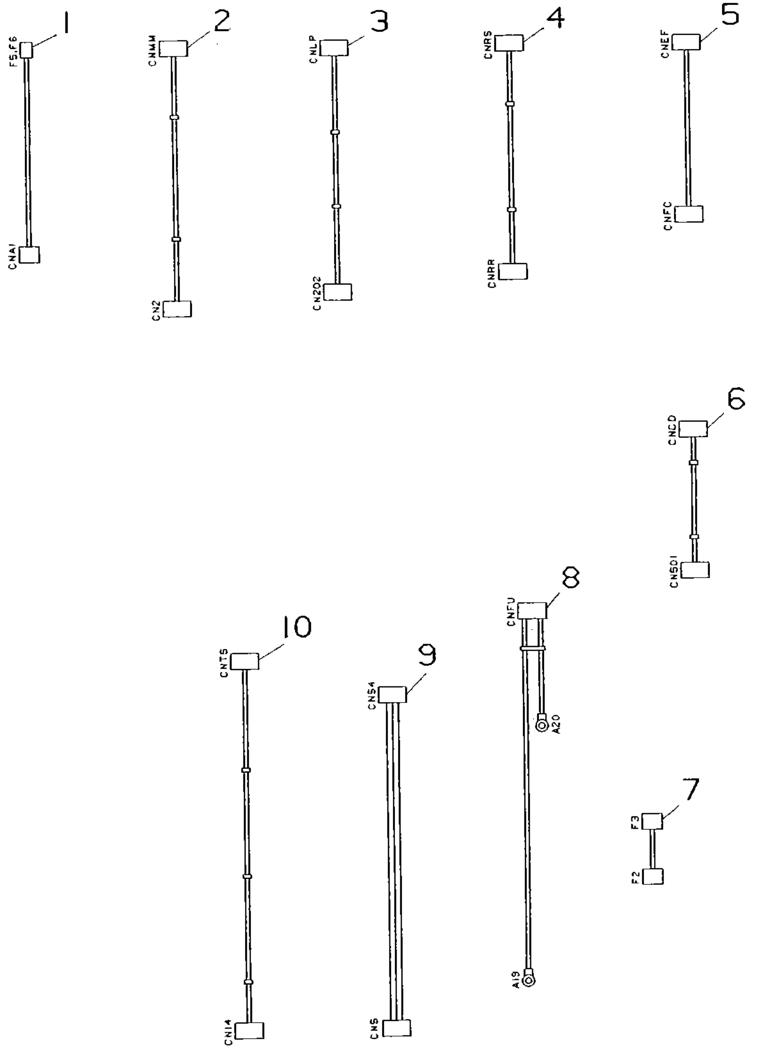
Electronics

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1218	T Harness	1	C	D
2	FFPWC1208	VP Harness	1	C	D
3	FFPWC1394	AJ Harness	1	N	D
4	FFPWC1312	AE Harness	1	C	D

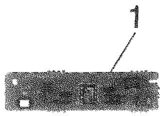

1
F19
A19
2
CN3
CNTFJ
CN703
CNSC
CNHS
CN701
CNCD
3
CNTD
CNPTL
CNDU
4
A101
A103
CNLP
5
F702
A703
A702
6
A1
A2
7
F22
A21
CNHV

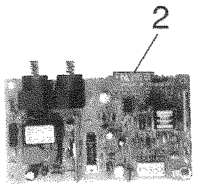
Electronics

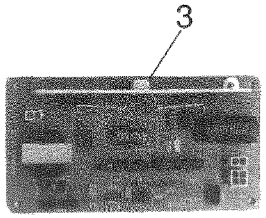
Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1244	LP Harness 2	1	C	D
2	FFPWC1449	DTC Harness	1	C	D
3	FFPWC1222	BG Harness	1	C	D
4	FFPWC1202	LP Harness	1	C	D
5	FFPWC1203	HV Harness 1	1	C	D
6	FFPWC1285	FU Harness 1	1	C	D
7	FFPWC1326	HE Harness	1	C	D

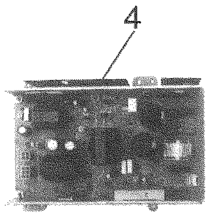

1
F5,F6
CNA1
2
CNMM
CN2
3
CNLP
CN202
4
CNRS
CNRR
5
CNEF
CNFC
6
CNCD
CN5D1
7
F3
F2
8
CNFU
A20
A19
9
CN54
CN5
10
CNT5
CN14

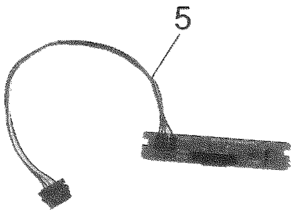
Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWC1230	AB Harness 1 ⚠	1	C	D
2	FFPWC1210	MM Harness	1	C	D
3	FFPWC1206	LJ Harness	1	C	D
4	FFPWC1450	HA Harness	1	C	D
5	FFPWC1455	EF Harness	1	C	D
6	FFPWC1317	ID Harness	1	C	D
7	FFPWC1286	AB Harness 2	1	C	D
8	FFPWC1225	FU Harness 2 ⚠	1	C	D
9	FFPWC1219	T Harness 2	1	C	D
10	FFPWC1399	CP Harness	1	C	D

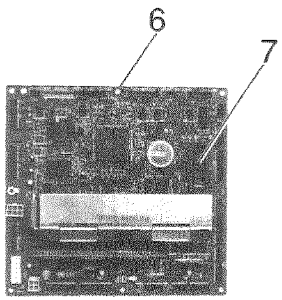


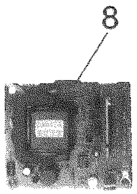






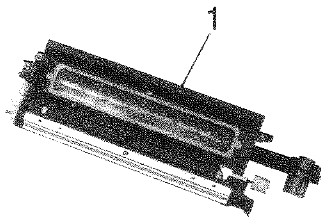


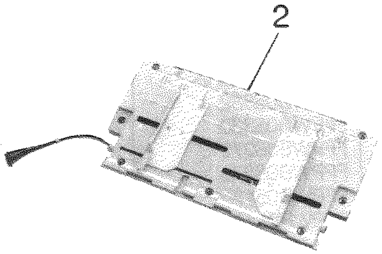


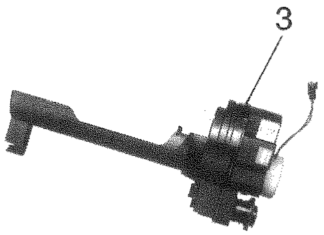


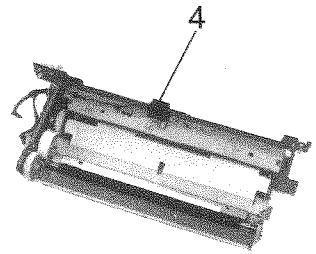
Electronics

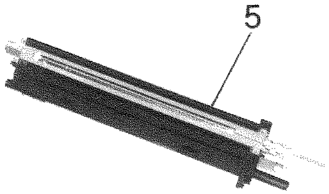
Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPWB0471	PCB Copy Density	1	C	C
2	EUKMBN410HA	PCB HVPS (1)	1	C	C
3	FFPWB05332	PCB AC Driver	1	C	C
3	FFPWB05333	PCB AC Driver, For Nordic	1	C	C
4	FFPWB05272	PCB LVPS	1	C	C
4	FFPWB05275	PCB LVPS (or)	1	C	C
5	FFPWB0518	PCB Auto Original Density	1	C	C
6	FFPWB05433	PCB CPU W/O P-Rom	1	N	C
7	FFPAH0167M	P-Rom	1	N	C
8	EUKSBN409HB	PCB HVPS (2)	1	C	C

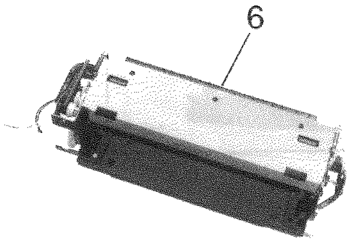


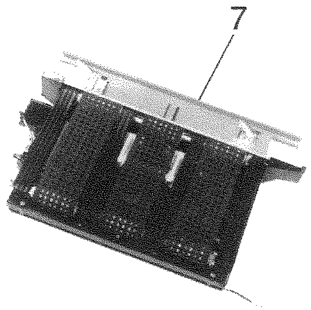


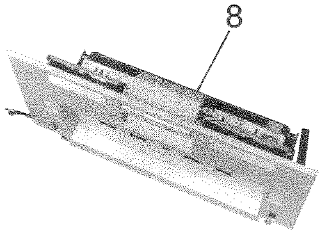












Assemblies

Ref. No.	Part No.	Description	Q'ty Per Unit	Com-mon	Rank
1	FFPUG01C90	Developer Unit, Black	1	N	D
2	FFPUQ90B531	Sheet Bypass Tray	1	C	D
3	FFPUH01D11	Hopper Unit	1	N	D
4	FFPUQ01D23	Paper Feed Unit	1	N	D
5	FFPUG02B503	Drum Unit	1	N	D
6	FFPUT001C23	Fuser Unit	1	C	D
7	FFPUE019512	Paper Transport Unit w/out Corona	1	C	D
8	FFPUF019011	Paper Exit Unit	1	C	D

PM Parts Kit

1. 60k PM Kit (Part No. FQSK06P4080S)

Contents

No.	Description	Part No.	Q'ty
1	DFP Roller	FFPMA03781	1
2	DFP Roller	FFPMA0420	1
3	Cleaning Blade	FFPHK06331	1
4	Dust Protection Filter	FFPXK27950	1
5	Cleaning kit	FQ-SJ72	1

2. 120k PM kit (Part No. FQSK12P1670S)

Contents

No.	Description	Part No.	Q'ty
1	Transfer Roller (Bypass)	FFPMA0377	1
2	DFP Roller (Bypass)	FFPMA03781	1
3	Paper Feed Roller (Bypass)	FFPMA0159	1
4	Paper Feed Roller (Cassette)	FFPMA0503 (Rubber only)	1
5	DFP Roller (Cassette)	FFPMA0420	1
6	Side Seal (F)	FFPHP06382	1
7	Side Seal (R)	FFPHP06352	1
8	Spacer Ring	FFPHQ00311	2
9	Cleaning Blade	FFPHK06331	1
10	Separation Finger (U)	FFPLK0230	5
11	Separation Finger (L)	FFPLK0231	5
12	Cleaning Web	FFPTM0252	1
13	Corona Cleaner	FFPXE04900	1
14	Dust Protection Filter	FFPXK30B00	2
15	Dust Protection Filter	FFPXK27950	1
16	Corona Wire	FFPEY0051	1
17	Corona Wire	FFPEY0052	2
18	Cleaning Kit	FQ-SJ72	1

3. Individual PM+Parts

Following parts are individual PM parts in addition to the 60k or 120k PM kit used every PM cycle. Please order the necessary individual PM Parts according to the chart below.

Additional PM Parts

	Description	Part No.	60k	120k	180k	240k	300k	360k
*1	Heat roller	FFPMA0359				1		
	Heat roller bushing	FFPMQ0385				2		
	Thermistor	FFPXT09950				1		
	Pressure roller	FFPMA03582						1
	Ozone filter	FFPHJ0032	1	1	1	1	1	1
	Ozone filter	FFPHJ00332	1	1	1	1	1	1
	No.1 corona Ass'y	FFPXG60B501						1
	No.2/3 corona Ass'y	FFPVL01A421						1

	Discharge lamp	PQ24V10W				1		
	Exposure lamp	E16V025WN2A *2		1		1		1
	Fuser lamp	H24V085WN2A *3				1		

*1 : FQ-SKF1780 : Fuser PM kit
*2 : or JK16V025WF67
*3 : or IK24V085W67

Numerical Parts Index

Part No.	Description	Page	Ref. No.	Qty Per Unit
42SPM24DCYE	Stepping Motor	13	11	2
BR6N4	Cord Bushing	28	29	1
CBDM24A4-901	Fan Motor	30	12	1
CH48I40	Choke Coil	28	30	1
D125J60-36	Bottle Motor	17	17	1
D125J60-36	Bottle Motor	20	12	1
E16V025WN2A	Exposure Lamp (or)	15	12	1
EDS2	Edge Saddle	6	29	1
EDS2	Edge Saddle	8	17	1
EDS2	Edge Saddle	11	6	1
EDS2	Edge Saddle	12	22	1
EESX461P4	Sensor, Waste Toner	6	18	1
ERZC10DK781	ZNR	24	19	1
ESD-R16C	Ferrite Core	28	31	1
ESE15403	Sensor	28	21	1
EUKMBN410HA	PCB HVPS (1)	11	21	1
EUKMBN410HA	PCB HVPS (1)	41	2	1
EUKSBN409HB	PCB HVPS (2)	41	8	1
EUKSBN409HB	PCB HVPS (2)	11	8	1
EYHH02NUE	PCB TH Sensor	7	6	1
F921-A14L	Door Switch	6	12	2
FFPAH0167M	P-Rom	11	23	1
FFPAH0167M	P-Rom	41	7	1
FFPCP0034	Heater, Dehumiditication	4	4	1
FFPCP0035	Heater, Dehumidification	14	14	2
FFPCV0008	Total Counter	3	9	1
FFPDA00253	Socket, High Voltage	11	20	1
FFPDA00264	Socket	19	18	1
FFPDA00271	T-DT Socket	10	14	1
FFPDC0002	Plastic Cap	3	20	1
FFPDE0035	Corona Terminal	11	29	1
FFPDE00372	Bias Terminal	10	4	1
FFPDE0044	Ground Terminal	20	17	1
FFPDF02081	Grid Lead	19	16	1
FFPDF0209	Bias AC Lead	10	3	1
FFPDF0210	Corona Lead	11	28	2
FFPDF0226	Bias Lead (3), Developer	18	11	1
FFPDF0226	Bias Lead (3), Developer	21	11	1
FFPDF0242	Ground Plate	30	9	1
FFPDF0243	Ground Plate	24	17	1
FFPDF0244	Ground Plate	26	11	1
FFPDK01872	Bias Lead (2)	10	2	1
FFPDN0022	Magnetic Roller	18	15	1
FFPDN0022	Magnetic Roller	21	15	1
FFPDU0025	Discharge Brush	32	3	1
FFPDU0025	Discharge Brush	33	5	1
FFPDU0047	Discharge Brush	32	14	1
FFPEM0004	Breaker	28	15	1
FFPEQ0062	Solenoid, Cleaning Web	10	9	1
FFPEV0103	Power Cord	28	19	1

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FFPEV0105	Power Cord, For Australia	28	19	1
FFPEY0051	Corona Wire 1	22	13	1
FFPEY0052	Corona Wire 2	19	12	1
FFPEY0052	Corona Wire 2	22	12	1
FFPFA0020	Shoulder Screw	27	28	2
FFPFA0021	Shoulder Screw	33	8	2
FFPFA0072	Shoulder Screw	6	20	2
FFPFA0072	Shoulder Screw	11	1	1
FFPFA0109	Shoulder Screw	5	24	1
FFPFA0111	Screw, Slit Plate	15	2	5
FFPFA0113	Screw, Developer Lever	5	4	1
FFPFA0114	Shoulder Screw	11	4	2
FFPFA0121	Shoulder Screw	13	48	1
FFPFA0135	Shoulder Screw	15	37	1
FFPFA0135	Shoulder Screw	16	17	1
FFPFG04351	Pin	29	10	2
FFPFJ0005	Snap Ring	20	10	1
FFPFJ0033	Snap Ring	5	20	1
FFPFJ0033	Snap Ring	14	24	1
FFPFJ0033	Snap Ring	17	22	1
FFPFJ0033	Snap Ring	23	19	1
FFPFJ0033	Snap Ring	24	10	3
FFPFJ0033	Snap Ring	35	17	1
FFPFJ0039	Snap Ring	24	15	1
FFPFJ0039	Snap Ring	25	12	3
FFPFJ0039	Snap Ring	27	27	1
FFPGA0042	Lens	13	23	1
FFPGB00171	Lamp Filter	5	17	1
FFPGB00201	Filter, Anti-Dust	12	4	2
FFPGC0154	Platen Glass	1	3	1
FFPGC0159	No.2/3 Mirror	16	8	2
FFPGC0160	No.1 Mirror	15	16	1
FFPGC0162	4/5 Mirror	14	4	2
FFPGC0163	No.6 Mirror	14	28	1
FFPGC0170	Main Reflector	15	9	1
FFPHA0044	Duct 2	30	11	1
FFPHA00452	Duct 3	30	5	1
FFPHA00462	Duct 4	30	7	1
FFPHA00472	Duct	11	11	1
FFPHA0063	Duct	7	9	1
FFPHG0036	Recycle Coil	19	30	1
FFPHH00712	Stirring Paddle	18	10	1
FFPHH00712	Stirring Paddle	21	10	1
FFPHJ0032	Filter	11	12	1
FFPHJ0033	Ozone Filter	7	12	1
FFPHK05481	Guide Mylar	34	6	1
FFPHK06331	Cleaning Blade	19	22	1
FFPHK0634	Slide Sheet	12	3	1
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FFPHK0662	Slide Sheet (2)	6	7	1
FFPHK0672	Bottle Support	17	7	1
FFPHK0717	Sensor Mark Sheet	1	10	1
FFPHK0807	Slide Sheet	13	29	1
FFPHK0808	Insulation Sheet	13	20	1
FFPHK0826	Guide Mylar	26	16	2
FFPHK0827	Guide Mylar	36	8	1
FFPHK0860	Fan Sheet	7	4	1
FFPHK0865	Guide Mylar	23	12	1
FFPHL0012	Dumper	14	42	1
FFPHP0553	Seal	18	25	2
FFPHP0553	Seal	21	25	1
FFPHP06342	Seal	17	13	1
FFPHP06352	Side Seal, Rear	19	35	1
FFPHP06382	Side Seal, Front	19	32	1
FFPHP0650	Sponge Seal 9	19	33	2
FFPHP06511	Sponge Seal 10	19	34	1
FFPHP0652	Sponge Seal 11	19	21	1
FFPHP06562	Side Seal, Developer	18	21	1
FFPHP06562	Side Seal, Developer	21	21	1
FFPHP06732	Side Seal, Developer	18	17	1
FFPHP06732	Side Seal, Developer	21	17	1
FFPHP0680	Toner Seal	26	15	1
FFPHP0696	Side Seal L	18	34	1
FFPHP0696	Side Seal L	21	34	1
FFPHP0697	Side Seal R	18	35	1
FFPHP0697	Side Seal R	21	35	1
FFPHQ00311	Spacer Ring (FFPHQ0042: for Production)	18	13	2
FFPHQ00311	Spacer Ring (FFPHQ0042: for Production)	21	13	2
FFPHQ0034	Roller Coupling	5	28	1
FFPJA02271	Lid, Corona Lead	11	26	1
FFPJA0228	Corona Lid, Front	19	3	1
FFPJA0229	Corona Lid, Rear	19	15	1
FFPJA02301	Corona Base, Rear	19	19	1
FFPJA02326	Corona Block, Front	22	8	1
FFPJA02332	Corona Cover, Front	22	5	1
FFPJA02346	Corona Block, Rear	22	14	1
FFPJA02361	Corona Cover, Rear	22	16	1
FFPJA02383	Corona Block, Front	19	7	1
FFPJC01871	Slit, Supplementary	13	24	1
FFPJC01881	Shield Cover, Corona	19	14	1
FFPJC0189	Insulation Sheet A	12	2	1
FFPJC0191	Adjust Plate, Optics	15	3	1
FFPJC0192	Adjust Plate, Optics	15	5	1
FFPJC0193	Adjust Plate, Optics	15	6	1
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FFPKB06804	Optics Frame	12	6	1
FFPKB06852	Lamp Frame	15	14	1
FFPKB06954	Frame, 4/5 Mirror	14	5	1
FFPKB0696	Frame, 4/5 Mirror Drive	13	21	1
FFPKB06992	Frame, Half Speed Unit	16	5	1
FFPKB07063	Front Frame	33	14	1
FFPKB07063	Front Frame	34	11	1
FFPKB07442	Bottom Plate	32	17	1
FFPKB07691	Frame, Paper Transport	30	8	1
FFPKB0805	Front Frame, Paper Feed	23	14	1
FFPKB0805	Front Frame, Paper Feed	24	21	1
FFPKB0805	Front Frame	25	14	1
FFPKB0805	Front Frame	26	13	1
FFPKB0805	Front Frame	27	8	1
FFPKB08075	Right Frame, Front	29	11	1
FFPKB08085	Right Frame, Rear	29	7	1
FFPKB08097	Left Frame, Front	29	13	1
FFPKB08107	Left Frame, Rear	29	15	1
FFPKB0814	Front Frame	14	26	1
FFPKB0815	Rear Frame	14	27	1
FFPKB08161	Lens Frame	13	30	1
FFPKB0818	Bracket, Pulley Mounting	13	31	1
FFPKD0711	Support, Slide Shaft	13	15	1
FFPKD0744	Lamp Holder, Discharge	5	34	1
FFPKD0745	Connector Bracket	11	2	1
FFPKD0746	LED Holder	6	4	1
FFPKD0760	Support, Magnetic Pole	18	12	1
FFPKD0760	Support, Magnetic Pole	21	12	1
FFPKD0773	Harness Holder	13	33	1
FFPKD07742	Glass Support, Rear	12	11	1
FFPKD0775	Support, Slide Shaft	13	8	1
FFPKD07771	Support	13	10	1
FFPKD07771	Support	14	2	1
FFPKD0778	Metal Plate (2)	13	34	1
FFPKD0779	Heater Holder	4	3	1
FFPKD0779	Heater Holder	14	13	2
FFPKD0781	Lamp Bracket, Front	15	10	1
FFPKD07821	Lamp Bracket, Rear	15	28	1
FFPKD07831	Lamp Terminal, Front	15	11	1
FFPKD07842	Lamp Terminal	15	26	1
FFPKD0785	Bushing Support	15	19	2
FFPKD0785	Bushing Support	16	2	2
FFPKD08062	Harness Support	32	27	1
FFPKD08074	Bracket	33	1	1
FFPKD08081	Lower Support 1	33	16	1

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FFPKD0852	Support, Roller Shaft	24	8	2
FFPKD08691	Bushing Support	33	21	1
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FFPKD0992	Round-edge Holder	15	25	1
FFPKD1026	Pressure Plate, Front	32	16	1
FFPKD1027	Pressure Plate, Rear	32	18	1
FFPKD10291	Pressure Plate, Rear	31	10	1
FFPKD10301	Pressure Plate, Front	31	7	1
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FFPKD1045	Roller Support	22	1	1
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FFPKD1059	Transport Guide B	30	1	1
FFPKD11111	Duct Stay	7	15	1
FFPKD11151	Rear Frame, Lower	28	20	1
FFPKD1117	Tray Holder F	23	8	1
FFPKD1118	Tray Holder R	23	29	1
FFPKD1119	Roller Stay	27	12	1
FFPKD11201	Slider	27	16	1
FFPKD1123	Left Stay	29	16	1
FFPKD1124	Rear Frame	28	14	1
FFPKD1124	Rear Frame, Lower	29	2	1
FFPKD1126	Lever Shaft	23	4	1
FFPKD11361	Roller Support, Paper Feed	24	1	1
FFPKD1166	Stay, Reinforcement	27	10	1
FFPKD1230	Support, Guide Shaft	13	9	2
FFPKD1231	Pressure Plate	31	1	1
FFPKD1232	Upper Frame	31	26	1
FFPKD1234	Rear Frame	31	27	1
FFPKE07581	Harness Cover	4	7	2
FFPKE0760	Gear Cover	8	8	1
FFPKE07652	Corona Case	19	2	1
FFPKE07671	Gear Cover	17	16	1
FFPKE0770	Harness Cover	13	32	1
FFPKE07711	Cover	14	8	1
FFPKE07782	Upper Guide Cover, Fuser	34	15	1
FFPKE07827	Cover, Paper Feed	23	7	1
FFPKE07846	Harness Cover	36	16	1
FFPKE0786	Hinge Cover	36	18	1
FFPKE0787	Hinge Cover (2)	36	19	1
FFPKE0798	Cover	28	13	1
FFPKE0808	Motor Cover	20	13	1
FFPKE08252	Cover HVPS	11	24	1
FFPKE0831	Harness Cover	31	12	1
FFPKE08321	Cover, Magnetic Roller	20	16	1
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FFPKE0856	Inner Cover, Middle	3	3	1

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FFPKE0885	AC Block Cover	28	1	1
FFPKE0891	Stopper Cover	36	20	2
FFPKE0892	Optics Cover	12	1	1
FFPKE08931	Lower Cover	12	10	1
FFPKE0894	Lens Cover	13	1	1
FFPKE0937	Cover, TD Sensor	18	20	1
FFPKE0937	Cover, TD Sensor	21	20	1
FFPKE0938	Plate, Toner Dispersion	18	1	1
FFPKE0938	Plate, Toner Dispersion	21	1	1
FFPKE0939	Harness Cover	18	33	1
FFPKE0939	Harness Cover	21	33	1
FFPKE0943	PCB Cover	7	5	1
FFPKE1107	Fuser Rail, Front	4	8	2
FFPKF0928	Rail, Drum Unit L	5	30	1
FFPKF09311	Drum Rail, Right	5	15	1
FFPKF0932	Developer Rail, Left	5	14	1
FFPKF0933	Rail, Developer R	7	1	1
FFPKF09363	Cam (1)	5	7	1
FFPKF0937	Washer	17	12	1
FFPKF0938	Stopper	17	9	1
FFPKF0940	Lens Rail	13	16	1
FFPKF0942	Harness Guide 1	15	24	1
FFPKF0943	Harness Guide 2	15	21	1
FFPKF0944	Harness Guide 3	15	22	1
FFPKF09471	Corona Rail	30	4	1
FFPKF09492	Paper Guide, Front Lower	32	2	1
FFPKF09501	Paper Guide, Front Upper	32	1	1
FFPKF09531	Upper Guide	34	3	1
FFPKF09542	Paper Guide, Rear Lower	34	10	1
FFPKF09584	Paper Guide, Rear Upper	34	13	1
FFPKF0961	Front Guide, Paper Exit	33	9	1
FFPKF09643	Paper Guide 3	23	38	1
FFPKF0983	Stopper (1)	6	21	1
FFPKF09841	Stopper (2)	6	10	1
FFPKF09851	Stopper Rail	6	8	1
FFPKF09861	Hinge Stopper	23	10	2
FFPKF09872	Bottle Stopper	3	8	1
FFPKF1031	Stopper	35	26	1
FFPKF1053	Transfer Guide	22	2	1
FFPKF1104	Cover Plate	3	5	2
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FFPKF1124	Front Stay	29	8	1
FFPKF1125	Rear Support, Upper	29	1	1
FFPKF11282	Rail, Lens Frame	13	7	1
FFPKF1129	Lever Guide R	23	24	1
FFPKF1135	Stopper	23	39	1
FFPKF1170	Guide Plate	25	34	1
FFPKF1207	Guide Shaft, Optics	13	12	1
FFPKH0212	Glass Spacer	5	33	1
FFPKH0264	Spacer, Insulation	24	34	1
FFPKH0265	Spacer, Insulation	24	18	1
FFPKH0273	Spacer	25	33	1
FFPKM0167	Pad	35	6	1
FFPKM0169	Slider	14	6	1
FFPKM0171	Developer Knob	5	6	1
FFPKM01722	Inner Cover, Right	3	2	1
FFPKM0223	Belt	33	15	1
FFPKM02551	Separator	18	5	1
FFPKM02551	Separator	21	5	1
FFPKM0276	Spacer	29	19	1
FFPKN0251	Duct Sela	11	10	1
FFPKN0256	Rubber A, Anti-Vibration	13	18	4
FFPKN0257	Rubber, Vibration	26	17	2
FFPKN0271	Cushion	1	14	2
FFPKN0274	Sponge Seal	12	9	1
FFPKN0275	Sponge Seal	12	21	1
FFPKN0282	Sheet, Mirror Support	16	12	2
FFPKN02891	Side Seal, Rear	18	18	1
FFPKN02891	Side Seal, Rear	21	18	1
FFPKN02901	Side Seal, Front	18	23	1
FFPKN02901	Side Seal, Front	21	23	1
FFPKN0319	Rubber Plate	7	11	2
FFPKP0048	Cleaning Felt	16	4	1
FFPKP0054	Felt	12	8	1
FFPKP0059	Felt	16	10	1
FFPKP0067	Pad	36	5	1
FFPKQ0064	Cam Base	5	13	3
FFPKQ00691	Grid Base	19	5	1
FFPKQ0070	Cleaning Base B, Cable	19	8	1
FFPKQ00733	Slide Bracket, Hopper	17	5	1
FFPKQ0074	Flange	13	3	2
FFPKQ0082	Holder	32	28	1
FFPKQ00831	Gear Frame	31	25	1
FFPKQ0103	Rear Base	32	23	1
FFPKQ0104	Front Base, Lamp Lead	32	4	1
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FFPKR13711	Bracket HVPS Mounting	11	9	1
FFPKR1383	Bracket, Optics Cover	13	39	1
FFPKR1387	Support, Glass Holder	12	5	1
FFPKR13891	ADF Bracket	12	15	1
FFPKR13931	Support, Guide Roller	16	6	1
FFPKR1409	Solenoid Bracket	10	11	1
FFPKR14221	Bracket 1, Control Panel	6	27	1
FFPKR1428	Sensor Base, Lens	14	15	1
FFPKR1454	Motor Bracket	20	11	1
FFPKR14751	Holder, ADF Connector	12	12	1
FFPKR1481	Bracket 3, Control Panel	6	23	1
FFPKR14991	Plate, CPU Mounting	11	25	1
FFPKR15001	Bracket, Sensor Mounting	6	33	1
FFPKR15681	Bracket	23	21	1
FFPKR1569	Bracket 1	24	11	1
FFPKR1570	Roller Support	27	21	1
FFPKR1572	Bracket, AC Driver	11	16	1
FFPKR1574	Mirror Bracket	14	40	1
FFPKR1575	Bracket, Brush	14	11	1
FFPKR1576	Plate, Pulley Mounting	13	36	1
FFPKR1580	Bracket, S0 Mounting	12	30	1
FFPKR1649	Motor Frame	14	20	1
FFPKR1650	Sub-plate, Motor	14	19	1
FFPKS0190	Plate, Key Counter	4	14	1
FFPKS0298	Magnet Yoke	3	6	4
FFPKS06522	Positioning Plate, Optics L	10	1	1
FFPKS0655	Positioning Plate, Optics S	10	5	1
FFPKS0664	Hopper Shutter	17	14	1
FFPKS0669	Adjusting Plate	12	7	1
FFPKS06711	Adjusting Plate, Lens	13	25	1
FFPKS06751	Corona Grid	19	13	1
FFPKS07053	Sensor Plate, Detection	35	19	1
FFPKS07061	Adjusting Plate	35	8	1
FFPKS08381	Option Out-let	28	16	1
FFPKS0890	Sub Plate	25	3	1
FFPKS08911	Stay, Reinforcement	24	27	1
FFPKS0892	Cover, Support	29	14	2
FFPKS0894	Bracket, Rear	28	7	1
FFPKS08951	Plate, Lens Positioning	13	27	1
FFPKS0896	Lift Lever	13	28	1
FFPKS0904	Harness Cover	28	2	1
FFPKS09541	Plate, Paper Size	35	20	1
FFPKS0955	Block	35	23	1
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FFPKU01243	Reinforcement Plate (R)	4	2	1
FFPKU01301	Reinforcement Plate (L)	4	1	1
FFPKU0144	Reinforcement Plate	3	31	1
FFPKU0150	Support, Cleaning Sheet	26	14	2
FFPLA0078	Transport Lever	5	21	1
FFPLA00791	Knob	5	27	1
FFPLA00801	Knob	33	6	1
FFPLA00812	Knob, Paper Feed	25	15	1
FFPLA00881	Knob, Stirring Paddle	18	8	1
FFPLA00881	Knob, Stirring Paddle	21	8	1
FFPLB0131	Push Button	35	25	1
FFPLF01741	Guide Rail 1	36	9	1
FFPLF01751	Guide Rail 2	36	10	1
FFPLG09411	Slide Pin	17	6	2
FFPLG09432	Drive Shaft 1	8	7	1
FFPLG09443	Drive Shaft 2	8	6	1
FFPLG09501	Shaft	5	8	1
FFPLG09513	Drum Support, Front	19	27	1
FFPLG0961	Slide Shaft	13	13	1
FFPLG0980	Lifting Shaft	5	22	1
FFPLG09862	Sensor Shaft	34	17	1
FFPLG1007	Shaft, Lift Roller	28	10	1
FFPLG1023	Roller Shaft	24	12	1
FFPLG1226	Cleaning Shaft	19	1	1
FFPLG1233	Roller Shaft, Paper Feed	24	7	1
FFPLG12341	Clutch Shaft	25	24	1
FFPLG1237	Sensor Shaft	27	24	1
FFPLG12411	Transport Roller	23	34	1
FFPLG1247	Roller Shaft	23	20	1
FFPLG1248	DFP Shaft	24	25	1
FFPLG1254	Shaft, Paper Feed	5	16	1
FFPLG1314	Roller Shaft	27	9	1
FFPLG1369	Gear Shaft 2	31	14	1
FFPLJ0081	Cam (3)	5	12	2
FFPLJ00851	Lift Cam	5	29	2
FFPLJ0086	Cam (2)	5	11	1
FFPLK02232	Separation Finger L	22	10	2
FFPLK02242	Separation Finger R	22	11	1
FFPLK02281	Front Arm	6	2	1
FFPLK02291	Front Arm	9	1	1
FFPLK0230	Separation Finger, Upper	34	14	5
FFPLK0231	Separation Finger, Lower	34	9	5
FFPLK0232	Conecting Arm	23	5	2
FFPLK0254	Harness Guide	36	15	1
FFPLL03991	Switch Lever	6	11	1
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FFPLL04061	Lever	9	3	1
FFPLL0407	Sensor Lever, Front	34	5	1
FFPLL04081	Sensor Lever, Rear	34	16	1
FFPLL0409	Lever	31	16	1
FFPLL04101	Lever 2	10	12	1
FFPLL04143	Lever	23	2	1
FFPLL0420	Arm	23	23	1
FFPLL04241	Sensor lever	26	7	1
FFPLL04253	Sensor Lever	24	4	1
FFPLL0426	Tray lever	35	14	1
FFPLL0427	Release Lever	35	4	1
FFPLL04291	Bracket, Developer Knob	5	5	1
FFPLL0468	DFP Arm	24	23	1
FFPLL04932	Sensor Lever	26	2	1
FFPLL0495	Sensor Lever	27	14	1
FFPLL0497	Lift Lever	28	8	1
FFPLL0498	Sensor Lever	36	12	1
FFPLL0499	Lever 1	23	3	1
FFPLL0500	Lever 2	23	1	1
FFPLL05011	AE Lever	12	19	1
FFPLL05031	Sensor Lever	27	23	1
FFPLL0504	Actuator	25	19	1
FFPLL0506	Lever	25	35	1
FFPLL05071	Lever	23	32	1
FFPLL05101	Stopper Lever	23	41	1
FFPLL0521	Lever	29	5	1
FFPLP0119	Tension Spring	25	17	1
FFPLP0721	Pressure Spring	5	46	1
FFPLP0722	Tension Spring, Grid	19	4	1
FFPLP07281	Spring	9	8	1
FFPLP0729	Spring (1)	5	9	4
FFPLP0730	Pressure Spring, Developer	5	1	1
FFPLP0731	Spring (2)	5	10	2
FFPLP0733	Shutter Spring	17	15	1
FFPLP0734	Hook Spring	17	3	1
FFPLP0735	Tension Spring	17	4	1
FFPLP07381	AE Spring	12	17	1
FFPLP07391	Lift Spring	6	26	1
FFPLP07391	Lift Spring	9	2	1
FFPLP07402	Tension Spring	32	15	2
FFPLP0741	Lamp Spring	32	7	1
FFPLP0742	Knob Spring	5	25	1
FFPLP0743	Spring, Separation Finger	34	8	10
FFPLP0744	Knob Spring	33	7	1
FFPLP0749	Lift Spring, Lever	31	19	1
FFPLP0756	Tension Spring	25	13	2
FFPLP07581	Spring	23	22	1

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Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPLP0762	Tension Spring	24	9	1
FFPLP0763	Spring	35	3	1
FFPLP0764	Spring	35	15	1
FFPLP0765	Spring	22	15	2
FFPLP07661	Tension Spring 1	22	6	1
FFPLP07671	Tension Spring 2	19	6	1
FFPLP07671	Tension Spring 2	22	7	1
FFPLP0769	Spring, Socket	19	17	1
FFPLP0783	Spring, Stopper Rail	6	9	1
FFPLP0784	Stopper Spring	6	22	1
FFPLP0792	Tension Spring	31	22	1
FFPLP08161	Pressure Spring	24	24	1
FFPLP08171	Release Spring	27	17	1
FFPLP0821	Tension Spring	14	7	1
FFPLP0848	Spring	35	2	1
FFPLP0849	Spring	29	4	1
FFPLP08501	Lift Spring	28	5	1
FFPLP0851	Lever Spring	23	6	1
FFPLP0856	Tension Spring	13	40	1
FFPLP0857	Tension Spring	13	37	1
FFPLP0859	Tension Spring	23	40	1
FFPLP0898	Pressure Spring	24	35	2
FFPLP08991	Tension Spring	23	36	2
FFPLP0904	Spring	35	22	1
FFPLP0906	Tension Spring	23	31	1
FFPLP0928	Pressure Spring	31	2	1
FFPLP0929	Pressure Spring	31	4	2
FFPLP0931	Tension Spring	14	41	1
FFPLQ0267	Spring, No.1 Mirror	15	13	2
FFPLQ0268	Spring, 4/5 Mirror Support	14	3	2
FFPLQ0270	Spring, Corona	30	3	2
FFPLQ0278	Mirror Support	16	9	2
FFPLQ0280	Spring Plate	5	23	1
FFPLQ03191	Spring	23	37	2
FFPLQ0323	Spring Washer	23	25	1
FFPLQ0330	Spring, Mirror Support	14	29	1
FFPLQ0331	Spring	35	12	1
FFPLR01961	Spring, Blade Pressure	19	25	1
FFPLR0198	Spring	23	17	1
FFPLR0199	Release Spring	26	6	1
FFPLR0217	Spring Clutch	24	33	1
FFPLR0222	Release Spring	34	4	1
FFPLR0243	Spring	27	22	1
FFPLT0088	Rubber Sleeve, Anti-Vibration	13	19	4
FFPLT0090	Sleeve	12	16	1
FFPLT0099	Blade Shaft, Rear	19	36	2
FFPLT01002	Shaft, Front	19	23	1
FFPLU00251	Boss	23	18	1
FFPLU00251	Boss	24	32	1
FFPMA0159	Roller, Pick up	24	16	1

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Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPMA03543	Drive Roller	30	16	1
FFPMA03582	Pressure Roller	32	12	1
FFPMA0359	Heat Roller	32	10	1
FFPMA03601	Roller, Paper Roller, Paper Exit	33	12	1
FFPMA03621	Roller, Paper Exit	33	17	1
FFPMA03651	Guide Roller	33	4	5
FFPMA03651	Guide Roller	34	2	4
FFPMA0374	Lift Roller	28	9	1
FFPMA0377	Roller, Paper Feed	24	13	1
FFPMA03781	DFP Roller	23	16	1
FFPMA0420	DFP Roller	24	28	1
FFPMA0421	Roller	22	3	3
FFPMA04261	Transfer Roller	30	18	3
FFPMA0443	Timing Roller, Drive	25	9	1
FFPMA0444	Timing Roller, Idle	25	7	1
FFPMA04453	Middle Roller	27	7	1
FFPMA0449	Roller	29	9	2
FFPMA0470	Pressure Roller	31	6	1
FFPMA0479	Roller, Paper Feed W/No. 37	27	13	1
FFPMA0503	Roller, Paper Feed (Rubber only)	27	37	1
FFPMA0510	Guide Roller	15	15	1
FFPMA0510	Guide Roller	16	7	1
FFPMB0137	Pulley (1)	13	5	1
FFPMB0138	Pulley (2)	13	35	1
FFPMB01391	Motor Pulley 1	8	14	1
FFPMB01391	Motor Pulley 1	9	11	1
FFPMB0140	Motor Pulley 2	8	15	1
FFPMB0140	Motor Pulley 2	9	9	2
FFPMB0171	Pulley B	14	9	1
FFPMB01751	Harness Guide	16	11	1
FFPMD0025	Cable Drum	14	23	1
FFPMF0248	Drive Gear	20	6	1
FFPMF0675	Idle Gear, Lens	13	6	1
FFPMF0676	Idle Gear	13	22	1
FFPMF0680	Drive Gear 1	8	12	1
FFPMF06811	Drive Gear 2	8	11	1
FFPMF0682	Drive Gear, Fuser	8	4	1
FFPMF0682	Gear, Fuser Drive	9	7	1
FFPMF0683	Drive Gear, Transfer	8	2	1
FFPMF0686	Gear, Magnetic Roller	18	24	1
FFPMF0686	Gear, Magnetic Roller	21	24	1
FFPMF0688	Idle Gear 1	18	29	1
FFPMF0688	Idle Gear 1	21	29	1
FFPMF0692	Gear, Recycle Coil	19	39	1
FFPMF0693	Idle Gear, Recycle Coil	19	31	1
FFPMF06951	Motor Gear	17	19	1
FFPMF06951	Motor Gear	20	8	1
FFPMF0696	Gear 1, Hopper Sensor	17	11	1
FFPMF06971	Hopper Gear	17	24	1
FFPMF06971	Hopper Gear	20	4	1

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Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPMF0698	Hopper Gear	17	21	1
FFPMF0699	Shaft Gear 2, Sensor	17	25	1
FFPMF07034	Rack	14	1	1
FFPMF0706	Idle Gear 1	32	20	1
FFPMF0707	Idle Gear 2	32	21	1
FFPMF0711	Gear A	33	10	2
FFPMF0712	Gear B	33	23	1
FFPMF07131	Gear 1	31	15	1
FFPMF0716	Gear 4	31	21	2
FFPMF0724	Gear, Timing Roller	25	8	1
FFPMF0725	Gear, Timing Roller	25	16	1
FFPMF0726	Idle Gear, 46T	25	22	1
FFPMF07281	Gear, 32/16T	25	11	1
FFPMF0729	Gear, 24T	24	6	1
FFPMF0730	Gear 16T	23	28	1
FFPMF07311	Idle Gear	24	14	1
FFPMF0744	Transfer Gear, Color	20	5	1
FFPMF0747	Idle Gear, Color	20	9	1
FFPMF0792	Drive Gear	24	31	1
FFPMF0793	Gear 1, Speed Reduction	8	3	1
FFPMF0796	Idle Gear	27	3	1
FFPMF0797	DFP Gear	27	25	1
FFPMF0798	Idle Gear	17	23	1
FFPMF07991	Gear 1	30	15	1
FFPMF0800	Gear 3	31	20	1
FFPMF08012	Idle Gear	25	21	1
FFPMF0822	Drive Gear	9	5	1
FFPMF08261	Cam/Gear	28	6	1
FFPMF0827	Lift Gear	28	4	1
FFPMF0828	Rack	35	9	2
FFPMF0828	Rack	36	6	2
FFPMF0829	Pinion Gear	35	10	1
FFPMF0829	Pinion Gear	36	7	1
FFPMF0888	Gear, Heat Roller	32	24	1
FFPMF0889	Gear, Stirring Paddle	18	27	1
FFPMF0889	Gear, Stirring Paddle	21	27	1
FFPMF0891	Idle Gear 2	18	30	1
FFPMF0891	Idle Gear 2	21	30	1
FFPMF0892	Idle Gear 3	18	31	1
FFPMF0892	Idle Gear 3	21	31	1
FFPMF0893	Gear, Toner Feed	18	28	1
FFPMF0893	Gear, Toner Feed	21	28	1
FFPMF0898	Idle Gear	27	4	1
FFPMJ0045	Door Stopper	3	10	1
FFPML0019	Belt, Paper Transport	30	19	3
FFPMN0081	Belt	14	21	1
FFPMN0082	Belt	13	4	1
FFPMQ0005	Bushing	27	20	1
FFPMQ0005	Bushing	30	14	1
FFPMQ0005	Bushing	33	11	2

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Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPMQ0043	Bearing	32	11	2
FFPMQ0093	Bushing	25	6	2
FFPMQ0094	Bushing	25	4	2
FFPMQ0166	Bushing	24	30	1
FFPMQ0273	Bearing (FFPMQ0504: for Production)	18	26	2
FFPMQ0273	Bearing (FFPMQ0504: Production)	21	26	2
FFPMQ0280	Bushing	19	38	2
FFPMQ0357	Bushing	15	20	2
FFPMQ0357	Bushing	16	3	2
FFPMQ0366	Bearing	18	14	2
FFPMQ0366	Bearing	21	14	2
FFPMQ0371	Bushing	5	3	1
FFPMQ03721	Drum Bushing	19	40	1
FFPMQ0374	Blade Support	19	24	1
FFPMQ0383	Bushing	30	13	1
FFPMQ0385	Bushing	32	8	2
FFPMQ0386	Bushing	33	13	1
FFPMQ03941	Bushing	25	23	1
FFPMQ03961	Bushing	23	26	1
FFPMQ03961	Bushing	25	2	1
FFPMQ0401	Bushing, Lever	31	23	1
FFPMQ0430	Bearing	14	25	2
FFPMQ0434	Bushing	33	18	1
FFPMQ0445	Slider	18	22	1
FFPMQ0445	Slider	21	22	1
FFPMQ0448	Shaft Support, Paper Feed	24	5	2
FFPMQ0450	Bushing	5	45	1
FFPMQ0451	Bushing	27	6	3
FFPMQ0483	Bushing, Developer	18	9	1
FFPMQ0483	Bushing, Developer	21	9	1
FFPMQ0497	Roller Bushing	30	6	6
FFPMQ0498	Bushing, Web Roller	31	3	3
FFPMQ0499	Bushing, Pressure Roller	31	5	2
FFPMQ05011	One Way Bushing	31	13	1
FFPMQ0502	Gear Bushing 1	31	24	1
FFPMQ0503	Gear Bushing 2	31	18	1
FFPMV0002	Polyslider	20	26	1
FFPMV0010	Polyslider	23	27	2
FFPMV0018	Polyslider	20	25	2
FFPMV0037	Polyslider	8	10	2
FFPMW0045	Drive Cable	14	22	1
FFPMW00451	Drive Cable	15	23	1
FFPNA04581	Right Cover	3	1	1
FFPNA04621	Top Cover, Rear	1	13	1
FFPNA04641	Top Cover, Left	1	12	1
FFPNA04674	Lower Cover, Control Panel	1	6	1
FFPNA04691	Left Cover, Lower	3	12	1
FFPNA04701	Paper Exit Cover	3	15	1
FFPNA04701	Paper Exit Cover	33	19	1
FFPNA04856	Platen Cover	2	1	1

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Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPNA05491	Rear Cover	3	16	1
FFPND00802	Panel Cover	1	9	1
FFPNG00221	Magnet	3	7	1
FFPNG00331	Magnet	3	23	1
FFPNH005011	Hinge	2	3	2
FFPNH00511	Hinge, Front Cover	4	6	2
FFPNM0027	Foot	29	12	2
FFPNN00333	Platen Rubber	2	2	1
FFPPA03482	Original Guide	1	11	1
FFPPA03542	Original Guide	36	3	1
FFPPJ0141	Cover sheet	12	32	1
FFPPJ0141	Insulation Sheet	15	36	1
FFPPJ01461	Cover Sheet	12	31	1
FFPQA00882	Toner Bottle, Waste	19	28	1
FFPQA00924	Exit Tray (1)	2	5	1
FFPQA00974	Main Frame	35	13	1
FFPQA01084	Tray (1), Sheet Bypass	36	4	1
FFPQA01094	Tray (2), Sheet Bypass	36	21	1
FFPQA01108	Tray, Sheet Bypass	36	11	1
FFPQA0127	Upper Frame, Developer	18	3	1
FFPQA0127	Upper Frame, Developer	21	3	1
FFPQA0876	Developer Frame, Lower	18	16	1
FFPQA0876	Developer Frame, Lower	21	16	1
FFPQB000702	Exit Tray (2)	2	6	1
FFPQF0031	Frame Lid, Developer	18	2	1
FFPQF0031	Frame Lid, Developer	20	2	1
FFPQF0031	Frame Lid, Developer	21	2	1
FFPQG00512	Paper Guide, Rear	35	11	1
FFPQG0052	Paper Guide	35	1	1
FFPQG00642	Paper Guide A, Front	35	5	1
FFPQG0066	Paper Guide, Rear	36	1	1
FFPQG0067	Paper Guide, Front	36	2	1
FFPQG00701	Paper Guide A, Rear	35	27	1
FFPTD0638	Operating Guide, English	2	7	1
FFPTD0639	Operating Guide, German	2	7	1
FFPTD0640	Operating Guide, French	2	7	1
FFPTD0641	Operating Guide, Dutch	2	7	1
FFPTD0642	Operating Guide, Italian	2	7	1
FFPTD0643	Operating Guide, Spanish	2	7	1
FFPTD0644	Operating Guide, Swedish	2	7	1
FFPTE01661	Label, Warranty	3	25	1
FFPTE06161	Cution Label, For Nordic	3	27	1
FFPTE06971	Cution Label, For U.K./Australia	3	27	1
FFPTE1515	Label, Over Current	3	29	1
FFPTE1516	Label, Cord Disconnect	3	26	1
FFPTE1554	Panel, Power Switch	3	13	1
FFPTE1585	Label, Direction	5	35	1
FFPTE15942	Label, Open/Close	33	20	1
FFPTE1599	Label, Paper Level	35	21	1
FFPTE16021	Label, Paper Size	35	18	1

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Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPTE16151	Caution Label, High Temperature	32	30	1
FFPTE1621	Caution Label, High Voltage	11	30	2
FFPTE1667	Caution Label, High Temperature	33	26	1
FFPTE1668	Label, CDI	17	8	1
FFPTE1845	Label, Toner Replacement	3	28	1
FFPTE1873	Label, Paper Jam	3	18	1
FFPTM0252	Cleaning Web Roller	31	11	1
FFPUE019512	Paper Transport Unit w/out Corona	42	7	1
FFPUF019011	Paper Exit Unit	42	8	1
FFPUG01C90	Developer Unit, Black	42	1	1
FFPUG02B503	Drum Unit	42	5	1
FFPUH01D11	Hopper Unit	42	3	1
FFPUQ01D23	Paper Feed Unit	42	4	1
FFPUQ90B531	Sheet Bypass Tray	42	2	1
FFPUT001C23	Fuser Unit	42	6	1
FFPVG01C65	Color Developer A'ssy	20	15	1
FFPVG02900	Color Hopper Unit	20	3	1
FFPVL01A421	No.2 Corona Ass'y	22	18	1
FFPWB0471	PCB Copy Density	12	18	1
FFPWB0471	PCB Copy Density	41	1	1
FFPWB0478	PCB Control Panel (3)	1	5	1
FFPWB0494	PCB Color Discrimination	20	1	1
FFPWB05061	PCB Control Panel (1)	1	7	1
FFPWB05075	PCB Control Panel (2)	1	8	1
FFPWB0518	PCB Auto Original Density	5	18	1
FFPWB0518	PCB Auto Original Density	41	5	1
FFPWB05272	PCB LVPS	41	4	1
FFPWB052721	PCB LVPS	11	7	1
FFPWB05275	PCB LVPS (or)	11	7	1
FFPWB05275	PCB LVPS (or)	41	4	1
FFPWB05332	PCB AC Driver	11	14	1
FFPWB05332	PCB AC Driver	41	3	1
FFPWB05333	PCB AC Driver, For Nordic	11	14	1
FFPWB05333	PCB AC Driver, For Nordic	41	3	1
FFPWB05433	PCB CPU W/O P-Rom	11	22	1
FFPWB05433	PCB CPU W/O P-Rom	41	6	1
FFPWC1202	LP Harness	15	18	1
FFPWC1202	LP Harness	39	4	1
FFPWC1203	HV Harness 1	11	27	1
FFPWC1203	HV Harness 1	39	5	1
FFPWC1206	LJ Harness	40	3	1
FFPWC1207	VPD Harness	37	7	1
FFPWC1208	VP Harness	38	2	1
FFPWC1209	VL Harness	37	2	1
FFPWC1210	MM Harness	40	2	1
FFPWC1218	T Harness	36	22	1
FFPWC1218	T Harness	38	1	1
FFPWC1219	T Harness 2	36	14	1
FFPWC1219	T Harness 2	40	9	1
FFPWC1222	BG Harness	18	32	1

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FFPWC1222	BG Harness	21	32	1
FFPWC1222	BG Harness	39	3	1
FFPWC1225	FU Harness 2	32	9	1
FFPWC1225	FU Harness 2	40	8	1
FFPWC1226	U Harness Paper Exit	33	25	1
FFPWC1230	AB Harness 1	28	23	1
FFPWC1230	AB Harness 1	40	1	1
FFPWC1244	LP Harness 2	15	27	1
FFPWC1244	LP Harness 2	39	1	1
FFPWC1285	FU Harness 1	32	26	1
FFPWC1285	FU Harness 1	39	6	1
FFPWC1286	AB Harness 2	28	22	1
FFPWC1286	AB Harness 2	40	7	1
FFPWC1312	AE Harness	38	4	1
FFPWC1317	ID Harness	40	6	1
FFPWC1326	HE Harness	30	10	1
FFPWC1326	HE Harness	39	7	1
FFPWC1328	PSS Harness	37	6	1
FFPWC1385	AJ Harness	6	16	1
FFPWC1394	AJ Harness	38	3	1
FFPWC1399	CP Harness	40	10	1
FFPWC1411	Ground Lead	11	13	1
FFPWC1449	DTC Harness	39	2	1
FFPWC1450	HA Harness	40	4	1
FFPWC1452	CN Harness	11	3	1
FFPWC1452	CN Harness	37	1	1
FFPWC1455	EF Harness	7	8	1
FFPWC1455	EF Harness	40	5	1
FFPWC1460	TH Harness	7	7	1
FFPWC1473	OM Harness	37	3	1
FFPWC1474	OS Harness	37	5	1
FFPWC1476	RB Harness	25	1	1
FFPWC1476	RB Harness	37	4	1
FFPXA019501	Fulcrum Bracket, Front	6	24	1
FFPXA039001	Rear Frame, Speed Reduction	8	1	1
FFPXA069001	Front Frame, Speed Reduction	8	5	1
FFPXA08B501	Main Motor Ass'y	8	13	1
FFPXA09900	Gear Unit, Fuser Drive	9	6	1
FFPXA10B50	Slide Bracket, Fuser Drive	9	4	1
FFPXA139502	Fulcrum Bracket, Rear	10	6	1
FFPXA16900	Solenoid Ass'y, Cleaning Web	10	8	1
FFPXA27B501	Drive Block Ass'y	9	10	1
FFPXA36900	Support Pin, Drum	6	5	1
FFPXA37900	Support Pin, Developer	6	19	1
FFPXA38900	Support Pin, Drum	6	6	1
FFPXA40B40	Fan Holder w/Mylar	7	13	1
FFPXA51900	Fulcrum Plate, Lever	5	31	1
FFPXA54900	Fulcrum Pin, Transport	6	15	1
FFPXA57900	PCB LED Array	6	1	1
FFPXA63A42	Slit Glass	7	2	1

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Part No.	Description	Page	Ref. No.	Qty Per Unit
FFPXA67B501	Paper Guide 2	23	13	1
FFPXB04D23	Control Panel Ass'y	1	4	1
FFPXB06D22	Front Cover Ass'y	3	11	1
FFPXB09903	Left Cover	3	14	1
FFPXB10901	Top Cover, Right	1	1	1
FFPXC03903	Tray Cover, Front	35	16	1
FFPXC04B50	Bottom Plate, W/Pad	35	7	1
FFPXF019001	Rear Frame	33	24	1
FFPXF019001	Rear Frame	34	12	1
FFPXG03C21	Toner Feeder	18	6	1
FFPXG03C21	Toner Feeder	21	6	1
FFPXG04C21	Pipe, Toner Supply	18	7	1
FFPXG10C65	Pipe, Toner Supply	21	7	1
FFPXG50B501	Frame, Drum Unit	19	37	1
FFPXG56950	Base A Ass'y, Cable Cleaning	19	10	1
FFPXG59950	Base C Ass'y, Cable Cleaning	19	9	1
FFPXG60B501	No.1 Corona Ass'y	19	20	1
FFPXG639001	Cleaning Cover Ass'y	19	29	1
FFPXH02950	Bracket, Motor Mounting	17	18	1
FFPXH10D11	Hopper Unit Ass'y	17	26	1
FFPXJ039001	Exit Tray Ass'y	2	4	1
FFPXK03900	AE Solenoid	12	20	1
FFPXK129002	Pulley Bracket	16	1	1
FFPXK15900	Thermostat	15	8	1
FFPXK17B43	Exposure Lamp Unit	15	1	1
FFPXK20900	Pulley E	14	16	1
FFPXK229001	Pulley D with Bracket	14	10	1
FFPXK23D21	Motor Bracket	14	17	1
FFPXK27950	Ozone Filter	13	14	1
FFPXK31D21	Stepping Motor, Optics	14	18	1
FFPXK33B40	Sub Reflector	15	7	1
FFPXL02950	Transfer Guide Ass'y	22	17	1
FFPXQ43B40	Magnet Clutch	25	5	2
FFPXQ459001	Magnet Clutch	27	1	1
FFPXQ46B43	Magnet Clutch	27	26	1
FFPXQ50B40	HF Solenoid	25	20	1
FFPXQ69B50	Right Stay	29	6	1
FFPXQ70B50	Bracket, Front	28	11	1
FFPXQ73C401	Rear Frame, Paper Feed	23	30	1
FFPXQ73C401	Rear Frame, Paper Feed	24	29	1
FFPXQ73C401	Rear Frame	25	10	1
FFPXQ73C401	Rear Frame	26	12	1
FFPXQ73C401	Rear Frame	27	5	1
FFPXQ75B401	Paper Guide	24	26	1
FFPXQ81B50	Support Stay	27	19	1
FFPXQ83B50	Paper Guide Ass'y	26	8	1
FFPXQ86B50	Guide Paper, Sheet Bypass	23	15	1
FFPXQ87B50	Paper Guide 1	26	1	1
FFPXT01908	Front Frame	31	8	1
FFPXT01908	Front Frame	32	13	1

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FFPXT02900	Lamp Lead, Front	32	5	1
FFPXT05950	Lamp Lead, Rear	32	22	1
FFPXT09950	Thermistor	32	25	1
FFPXT149081	Rear Frame	31	9	1
FFPXT149081	Rear Frame	32	19	1
FFPXT15900	Thermostat	32	29	1
FS04519BS	Optics Fan	13	17	1
GP1A71A1	Sensor, Front Door	6	14	1
GP1A71A1	Sensor, Reduction/Enlargement	14	12	2
GP1A71A1	Sensor, Bottle Position	17	20	1
GP1A71A1	Sensor	24	2	1
GP1A71A1	Sensor	25	18	1
GP1A71A1	Sensor	26	3	2
GP1A71A1	Sensor	27	18	1
GP1A71A1	Sensor, Paper Exit	33	22	1
GP1A71A1	Photo Sensor	36	13	3
GP3A57A1	Optics Sensor	12	14	1
H24V085WN2A	Fuser Lamp (or)	32	6	1
HL18-0	Harness Lifter	11	18	1
HL18-0	Harness Lifter	28	3	1
HL38-0	Harness Lifter	10	13	1
IK24V085W67	Fuser Lamp	32	6	1
JK16V025WF67	Exposure Lamp	15	12	1
KGLS3S	Locking Spacer	11	37	6
LWS1NA	Locking Wire Saddle	13	47	2
LWS1NA	Locking Wire Saddle	14	31	2
LWS1S	Locking Wire Saddle	4	12	5
LWS1S	Locking Wire Saddle	6	31	4
LWS1S	Locking Wire Saddle	10	19	4
LWS1S	Locking Wire Saddle	11	31	3
LWS1S	Locking Wire Saddle	17	30	1
LWS1S	Locking Wire Saddle	25	25	1
LWS1S	Locking Wire Saddle	28	28	4
LWS2NA	Locking Wire Saddle	11	5	2
LWS2NA	Locking Wire Saddle	14	32	1
LWS2NS	Locking Wire Saddle	4	13	6
PQ24V10W	Discharge Lamp	5	32	1
PVX24C4LA	Main Motor	8	9	1
SIG8226-1BB	Power Switch	6	17	1
SO8C24DURC1	Exhaust Fan	7	3	2
SYN4+F12	Screw (M4x12)	7	21	1
TB1520	Busning	7	18	1
TS0524LA-15	Sensor, Toner Density	18	19	1
TS0524LA-15	Sensor, Toner Density	21	19	1
TS15A20-09	Toner Sensor	17	10	1
TS15A20-09	Toner Sensor, Remain	20	7	1
UAMS05S2	Clamp	4	5	3
UAMS05S2	Clamp	5	36	1
UAMS05S2	Clamp	6	32	2
UAMS05S2	Clamp	7	17	21

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UAMS05S2	Clamp	10	20	4
UAMS05S2	Clamp	12	27	1
UAMS05S2	Clamp	14	33	5
UAMS05S2	Clamp	20	22	1
UAMS05S2	Clamp	24	41	2
UAMS05S2	Clamp	25	26	5
UAMS05S2	Clamp	27	31	2
UAMS05S2	Clamp	28	27	3
UAMS05S2	Clamp	32	32	4
UAMS05S2	Clamp	33	27	1
VC210FA	Noise Filter	28	12	1
VC210FA12	Noise Filter, For Nordic	28	12	1
XNG8C	Nut	28	17	1
XPJ2D10WV	Pin	18	44	1
XPJ2D10WV	Pin	21	44	1
XPJ2D10WV	Pin	27	36	1
XPJ2D12WV	Pin	18	50	1
XPJ2D12WV	Pin	21	50	1
XPJ2D12WV	Pin	31	17	1
XPJ2D16WV	Pin	8	19	4
XPL2A12WV	Spring Pin	18	45	1
XPL2A12WV	Spring Pin	21	45	1
XPL3A12WV	Spring Pin	10	10	1
XSB3+4BN	Screw (M3x4)	18	36	2
XSB3+4BN	Screw (M3x4)	21	36	2
XSB3+6	Screw (M3x6)	13	41	2
XSB4+10GFN	Screw (M4x10)	3	17	2
XSB4+6BN	Screw (M4x6)	18	38	2
XSB4+6BN	Screw (M4x6)	21	38	2
XSB4+8	Screw (M4x8)	15	29	2
XSS3+8	Screw (M3x8)	4	15	2
XSS4+6-P	Screw (M4x6)	24	42	2
XST4+6FN	Screw (M4x6)	1	2	3
XTB3+10F	Screw (M3x10)	15	33	1
XTB3+10G	Screw (M3x10)	18	37	4
XTB3+10G	Screw (M3x10)	18	39	3
XTB3+10G	Screw (M3x10)	21	37	4
XTB3+10G	Screw (M3x10)	21	39	3
XTB3+12G	Screw (M3x12)	1	16	10
XTB3+6F	Screw (M3x6)	4	11	7
XTB3+6F	Screw (M3x6)	5	37	6
XTB3+6F	Screw (M3x6)	6	30	12
XTB3+6F	Screw (M3x6)	7	20	3
XTB3+6F	Screw (M3x6)	11	35	5
XTB3+6F	Screw (M3x6)	12	26	15
XTB3+6F	Screw (M3x6)	13	42	22
XTB3+6F	Screw (M3x6)	14	34	24
XTB3+6F	Screw (M3x6)	15	30	14
XTB3+6F	Screw (M3x6)	16	14	4
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XTB3+6F	Screw (M3x6)	28	24	10
XTB3+6FFZ	Screw (M3x6)	13	43	5
XTB3+6FFZ	Screw (M3x6)	14	35	2
XTB3+6FFZ	Screw (M3x6)	15	31	4
XTB3+6FFZ	Screw (M3x6)	16	15	2
XTB3+6G	Screw (M3x6)	18	48	1
XTB3+6G	Screw (M3x6)	21	48	1
XTB3+6G	Screw (M3x6)	36	25	3
XTB3+8F	Screw (M3x8)	5	38	1
XTB3+8F	Screw (M3x8)	10	21	4
XTB3+8F	Screw (M3x8)	11	34	16
XTB3+8F	Screw (M3x8)	13	44	1
XTB3+8F	Screw (M3x8)	23	44	11
XTB3+8F	Screw (M3x8)	24	36	6
XTB3+8F	Screw (M3x8)	25	27	3
XTB3+8F	Screw (M3x8)	27	33	1
XTB3+8G	Screw (M3x8)	1	15	2
XTB3+8G	Screw (M3x8)	5	39	2
XTB3+8G	Screw (M3x8)	7	22	2
XTB3+8G	Screw (M3x8)	10	16	1
XTB3+8G	Screw (M3x8)	11	32	5
XTB3+8G	Screw (M3x8)	12	24	7
XTB3+8G	Screw (M3x8)	15	32	1
XTB3+8G	Screw (M3x8)	17	27	5
XTB3+8G	Screw (M3x8)	20	18	4
XTB3+8G	Screw (M3x8)	23	45	2
XTB3+8G	Screw (M3x8)	24	37	1
XTB3+8G	Screw (M3x8)	27	34	1
XTB3+8G	Screw (M3x8)	35	29	7
XTB3+8G	Screw (M3x8)	36	26	2
XTB3+8J	Screw (M3x8)	11	15	2
XTB4+10G	Screw (M4x10)	3	24	4
XTB4+10G	Screw (M4x10)	18	47	1
XTB4+10G	Screw (M4x10)	21	47	1
XTB4+10G	Screw (M4x10)	22	20	2
XTB4+10G	Screw (M4x10)	30	17	6
XTB4+10G	Screw (M4x10)	33	30	2
XTB4+10G	Screw (M4x10)	35	32	4
XTB4+10GFN	Screw (M4x10)	36	24	4
XTB4+6F	Screw (M4x6)	12	25	10
XTB4+6F	Screw (M4x6)	14	36	5
XTB4+6F	Screw (M4x6)	32	31	1
XTB4+8F	Screw (M4x8)	3	22	4
XTB4+8F	Screw (M4x8)	4	10	16
XTB4+8F	Screw (M4x8)	6	28	3
XTB4+8F	Screw (M4x8)	7	19	12
XTB4+8F	Screw (M4x8)	8	18	7
XTB4+8F	Screw (M4x8)	10	15	10
XTB4+8F	Screw (M4x8)	11	36	2

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XTB4+8F	Screw (M4x8)	23	42	2
XTB4+8F	Screw (M4x8)	24	38	8
XTB4+8F	Screw (M4x8)	26	18	6
XTB4+8F	Screw (M4x8)	27	32	9
XTB4+8F	Screw (M4x8)	28	25	4
XTB4+8F	Screw (M4x8)	29	17	6
XTB4+8F	Screw (M4x8)	30	20	3
XTB4+8F	Screw (M4x8)	32	34	8
XTB4+8F	Screw (M4x8)	33	28	8
XTB4+8G	Screw (M4x8)	10	18	1
XTB4+8H	Screw (M4x8)	31	30	3
XTB4+8K	Screw (M4x8)	9	13	6
XTN3+6F	Screw (M3x6)	20	21	4
XTN3+6G	Screw (M3x6)	35	30	1
XTN4+12F	Screw (M4x12)	2	8	4
XTN4+34G	Screw (M4x34)	7	16	4
XTS3+10G	Screw (M3x10)	3	19	4
XTT4+10FFN	Screw (M4x10)	1	17	6
XTT4+10FFN	Screw (M4x10)	3	21	12
XTT4+10FFN	Screw (M4x8)	36	27	4
XTW3+8G	Screw (M3x8)	12	28	2
XTW4+14Q	Screw (M4x14)	35	33	3
XUB10VM	C Ring	18	43	2
XUB10VM	C Ring	21	43	2
XUC2VM	E Ring	20	24	1
XUC2VM	E Ring	28	26	1
XUC3VM	E Ring	27	35	1
XUC4VM	E Ring	5	40	1
XUC4VM	E Ring	18	46	2
XUC4VM	E Ring	20	23	2
XUC4VM	E Ring	21	46	2
XUC4VM	E Ring	24	39	1
XUC4VM	E Ring	25	31	1
XUC4VM	E Ring	31	32	2
XUC5VM	E Ring	17	29	1
XUC5VM	E Ring	18	40	4
XUC5VM	E Ring	21	40	4
XUC5VM	E Ring	23	43	1
XUC5VM	E Ring	24	40	2
XUC5VM	E Ring	25	29	3
XUC5VM	E Ring	27	30	3
XUC5VM	E Ring	31	29	1
XUC6VM	E Ring	25	32	1
XUC7VM	E Ring	8	16	2
XUC7VM	E Ring	9	12	4
XUC7VM	E Ring	25	30	4
XUC7VM	E Ring	27	29	5
XUC8VM	E Ring	5	41	2
XUC9VM	E Ring	5	42	1

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XWC8A	Washer	28	18	1
XWE3	Washer	36	23	1
XWE4BN	Washer	18	49	2
XWE4BN	Washer	21	49	2
XWG3	Washer	17	1	1
XWG3	Washer	35	34	1
XWG4	Washer	3	30	1
XWG6	Washer	5	26	1
XXE3D8FP	Set Screw	14	38	1
XXE3D8FP	Set Screw	15	34	1
XXE3D8FP	Set Screw	16	13	1
XYN3+A8-B	Screw (M3x8)	15	35	3
XYN3+F6	Screw (M3x6)	10	17	4
XYN3+F6	Screw (M3x6)	12	23	2
XYN3+F6	Screw (M3x6)	13	45	4
XYN3+F6	Screw (M3x6)	14	39	5
XYN3+F6	Screw (M3x6)	16	16	1
XYN3+F6	Screw (M3x6)	18	41	2
XYN3+F6	Screw (M3x6)	21	41	2
XYN3+F6	Screw (M3x6)	22	19	2
XYN3+F8	Screw (M3x8)	5	43	7
XYN3+F8	Screw (M3x8)	11	33	1
XYN3+F8	Screw (M3x8)	19	41	4
XYN3+F8	Screw (M3x8)	20	19	2
XYN3+F8	Screw (M3x8)	25	28	2
XYN3+F8	Screw (M3x8)	35	28	2
XYN4+C8	Screw (M4x8)	29	18	10
XYN4+F10	Screw (M4x10)	5	44	3
XYN4+F12	Screw (M4x12)	13	46	4
XYN4+F16	Screw (M4x16)	18	42	4
XYN4+F16	Screw (M4x16)	21	42	4
XYN4+F8	Screw (M4x8)	31	28	4
XYN4+F8	Screw (M4x8)	32	33	7
XYN4+F8	Screw (M4x8)	33	29	2
XYN4+F8	Screw (M4x8)	34	7	5
XYN4+F8	Screw (M4x8)	35	31	1
XYN5+F8	Screw (M5x8)	31	31	2